

HOW TO RAISE
THE BABY

Dame Mayaleden



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HOW TO RAISE THE BABY



The Macfadden family group. Mr. and Mrs. Macfadden in the center. From left to right, Helen, Byrne and Byrne and Braunda at the top. Beulah, Beverly, Brewster, Berwyn and Braunda at the bottom.

How to Raise the BABY

BY

BERNARR MACFADDEN

AUTHOR OF "MACFADDEN'S ENCYCLOPEDIA OF PHYSICAL CULTURE," "EATING FOR HEALTH AND STRENGTH," "STRENGTHENING THE EYES," "HAIR CULTURE," "MANHOOD AND MARRIAGE," "TOOTH TROUBLES, FOOT TROUBLES" AND OTHER WORKS ON HEALTH AND SEX

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PREFACE

ROUGHLY estimated, there are 1,500,500 babies born in the United States every year. More than 750,000 of these infants are killed before they reach five years of age by the ignorant, hothouse methods adopted in caring for them. Do you doubt this startling assertion?

Do you doubt that human life is regarded as such a trifling thing that it can be wasted in this manner without exciting the attention of legislators and public educators? If you do, there are ample means of proving to you the truth of the foregoing assertion.

All over the world there is an alarming want of knowledge of even the most simple rules which should be observed in the rearing and training of babies.

Our schools and colleges, almost without exception, ignore this most important of all subjects. In only a few of our most advanced colleges for women is the subject of parenthood and its responsibilities ever mentioned. And in fewer still is there any practical demonstration of all that is involved in the actual care of a baby.

That which should be a standardized science, checked up by the accumulated experience of half a million years, is, to a very large extent, a hit-or-miss enterprise, to be learned, if learned at all, by bitter, costly experience.

Our government authorities have for many years past given a vast amount of attention to the raising of domestic animals. That department of the Bureau of Agriculture which has to do with the subject employs many high-priced experts and scores of assistants, and dis-

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tributes annually tons of literature free to those who desire information on this unquestionably important topic.

Yet little official notice is taken of the human animal, and but few authoritative recommendations for its care have been made.

Such books and pamphlets on the subject as have been prepared under government supervision for general distribution are known to comparatively few, although they are highly informative and thoroughly helpful. They are issued by the Superintendent of Documents, Washington, D. C., and are so well worth sending for that the complete list has been given at the conclusion of Chapter I.

A considerable amount of work has also been done by State and municipal health departments, community leagues and similar organizations, in educating mothers in the proper care of children. Milk stations, district nurses, free medical advice, lectures to mothers and other agencies of this kind are bearing fruit.

Within recent years in communities in which a fairly active educational campaign has been carried on, as in New York City, and other metropolitan districts of the United States, as well as in New Zealand, Australia, England and many of the advanced European countries, a sharp reduction in the mortality rate of infants has been effected—reflecting itself in a gratifying increase in the total longevity, as evidenced in the mortuary tables prepared by the great life-insurance companies.

All this is extremely encouraging. And yet the surface of constructive educational work has scarcely been

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scratched. A mountain of ignorance still remains to be moved.

The birth of a child is an event which in the past we have been wont to clothe in more than its due amount of mystery, and, perhaps for this reason, our notions about the care the little being needs after it arrives have been mostly founded on superstition. Why not throw all such false guides aside, and use common sense for a while?

Good, wholesome outdoor air is beneficial to a grown person, but by some absurd process of reasoning, which no one can explain, is supposed to be injurious to babies. Every breath of air must be kept from them.

They are presumed to be too delicate to breathe air not befouled with the poisons that emanate from their own little lungs and the lungs of others.

Their poor little bodies are often so bound with clothing that they are almost smothered, and the pores of their skins cannot fulfill their important functions.

Their stomachs are supposed to be capable of assimilating an almost continuous stream of nourishment. Every cry of dissatisfaction is supposed to indicate a desire for food, and they are fed so frequently that digestive troubles soon appear, or rolls upon rolls of fat encumber their little bodies, making them fall an easy prey to diseases of all kinds.

Animals are gifted with an instinct which accurately dictates the best means of raising their young. The human mother, however, is not only lamentably lacking in such instinct, but is, in addition, handicapped by all the harmful customs and superstitions that are the legacies of the dark ages and that increase in power

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for evil with the lapse of each succeeding generation.

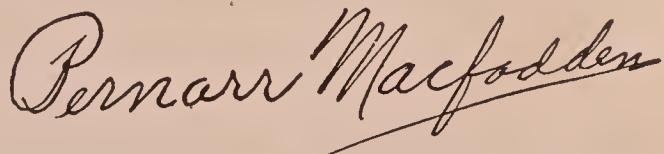
The young woman into whose life there enter the duties and responsibilities of motherhood finds herself, therefore, in a very difficult position.

If she is eager for the truth, however, this book, it is hoped and believed, will furnish just such a guide as she needs. Its aim is to give common-sense instruction regarding the rearing of infants in language as simple as possible, and if she will read it with an unprejudiced mind and follow its teachings, her reward should be greater than if she had discovered the richest of gold mines.

It is stated by the very greatest authorities that, barring accident, every child born with sufficient vitality to enable it to maintain life is capable of developing into a normal, healthy individual. Hence the rearing of a child is a task of the very greatest importance, and at the same time it is one which, given the proper knowledge, should be the greatest of joys and free from the worry and exhaustion that so often accompany it.

Follow the laws of Nature as outlined and interpreted in this book in the care and training of these tiny atoms of humanity, and they will develop into such perfect specimens of manhood and womanhood as will delight the eye and be a source of endless satisfaction to your heart and soul.

And better than this I could not wish for anyone.

A handwritten signature in cursive script, appearing to read "Bernarr Macfadden". The signature is fluid and written in black ink.

Clothing and furnishings in photographs illustrating this book
by courtesy of Best and Company, New York.

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PART I

From Birth Through the First Year

HOW TO RAISE THE BABY

CHAPTER I

First Care of the New-Born Infant

But yesterday and thee the earth
Inscribed not on her mighty scroll,
Today she opens the gates of birth,
And gives the spheres another soul.

—*Taylor.*

THE care of an infant should be begun with, or even prior to, its conception by the mother. The mother's blood nourishes the tissues that are being formed; therefore, upon her health depends largely the development of the child, and the manner in which both mother and child pass through the ordeal of birth; but this part of the subject has already been dealt with in my book on Motherhood. This book has to do with the care of the child after its career in the outside world has begun.

This career may be said to have been fairly started when the child's first involuntary cry is heard. This is not a cry of pain altogether, as it is generally misconceived to be, but rather an indication of vigor, and therefore may be taken as a signal of safety.

THE CAUSE OF THE FIRST CRY

The wee stranger, during the months of his journey hitherward, has been breathing through the placenta, the medium supplied for this purpose by Mother Nature within the wonderful workshop in which his tiny

HOW TO RAISE THE BABY

form has been molded. But now he finds himself in a world where he must breathe for himself, and his first cry is a note of triumph announcing to all within hearing that, taught by the instinct for self-preservation, he has succeeded in bringing into use his own independent air-supplying apparatus.

Then, too, there is the effect of the air—usually cold in comparison with the warmth of his nine-months' domicile—coming into contact with the delicate nerves of the skin. Could any human being, old or young, be expected to endure such an experience in silence?

And also it is believed that some direct irritation of the spinal cord, resulting from the fact that the baby's blood for the first time is receiving its oxygen through the lungs, instead of through the placenta of the mother, may have an influence in producing the cry.

WHEN THERE IS NO CRY

But sometimes this shrill piping cry is not heard. The little stranger is born apparently lifeless.

This is especially likely to be the case if the second stage of labor has been unduly prolonged, so that the baby's head has been subjected to pressure for many hours.

Or it may occur in those cases in which the circulation of blood through the umbilical cord has in some way been cut off, causing a lack of oxygen in the blood of the child. The circulation may have been stopped, for instance, by a contraction of the uterus such as takes place when ergot (a preparation for hastening or increasing uterine contractions) is given injudiciously to the mother during labor.

FIRST CARE OF THE NEW-BORN INFANT

For any of these reasons the baby may be born asphyxiated, its face often livid and terribly swollen. It may perhaps make one or two feeble attempts to breathe, but is not equal to the greater effort of crying.

Sometimes, instead of being livid, the face is pale, while the limbs are flaccid and the heart-beat almost inaudible. This is a very serious condition—much more so than if the face were suffused with blood.

No time should be lost in attempting to excite respiration in a baby born apparently lifeless, for, in a very large percentage of cases, prompt action will meet with success.

In case baby is born before physician or midwife has arrived the attendant should follow these procedures:

First, the cord should be cut, as soon as it has ceased to pulsate, with a pair of sterile scissors. If the child's face is dark and filled with blood, the cord should then be allowed to bleed a few drops before it is tied, to relieve the choked-up circulation; in the opposite condition of paleness, especially if the infant appears to be weak and frail, no loss of blood should be permitted.

Then the child is smartly slapped on the chest and back, or the body rubbed rapidly with a little brandy, alcohol, or cool water, poured in the palm of the hand. This will excite sufficient irritation of the skin to cause the gasp for breath that will at once establish the function of breathing.

If this is not instantly successful, the attendant should immediately prepare two basins, one filled with water as hot as can be borne without burning, the other with very cold water. The baby should then be taken by the shoulders and dipped for a second into the

HOW TO RAISE THE BABY

hot water, and then at once into the cold. This should be repeated two or three times, unless the wished-for cry is heard after the first plunge, which is very likely to happen. This method is very effective and has saved the lives of countless babies.

Sometimes swinging the child by the feet has a good effect. And occasionally it may even be necessary to resort to artificial respiration. This is done by placing the child on its back, with its legs held stretched out. The elbows are then grasped, raised above the head, and slowly lowered and pressed against the sides of the chest, with only sufficient force to squeeze it in—producing the effect of inspiration and expiration.

If immediate results are not procured, this procedure should be persisted in for as long as thirty minutes—when the attendant might be rewarded with the welcome cry. Then, as the next step, the infant is bathed.

BABY'S FIRST BATH

If the baby cries lustily from the first, the nurse or attendant may bathe it just as soon as she can be spared from attendance on the mother.

The baby should first be carefully anointed with pure olive oil, to facilitate the removal of the *vernix caseosa*—the unctuous material with which the body is covered. This is followed by a warm bath, the water being from ninety-five to one hundred degrees Fahrenheit. The best castile soap should be used, the baby being carefully soaped and sponged from head to foot. Then he should be dried with a soft old towel, using extreme gentleness always.

FIRST CARE OF THE NEW-BORN INFANT

Just here I might urge the value of saving all the old linens—the older the better—before baby's advent; for the infinitely delicate skin of the new-born infant nothing can be quite so comforting.

This first bath should not take any longer than necessary, for the small stranger is easily fatigued, and at this early period there is never any vitality to waste.

A soft old blanket makes the very best of bathing aprons, as it provides a comfortable padding for the repose of the little body and also aids in the conservation of its natural heat.

BE CAREFUL OF DRAFFTS

A warm room for this first bath is, of course, a necessity, and the baby should be well protected from undue currents of air during its progress. Later in its life the child will be strengthened by an abundance of fresh air, but at this tender age considerable care must be taken to avoid chilling it.

Many nurses prefer to lay the baby on his back on the lap, and wash him piecemeal, that is, one member at a time, never exposing any more surface than is absolutely necessary. Still others prefer a liberal bowl of warm water, where the youngster can be thoroughly cleansed. The choice of methods must depend somewhat on the ruggedness of the child. Always bear in mind, however, the warm quarters from which baby has so recently come.

Soft old linen is preferable to a sponge for bathing, unless scrupulous care is taken of the sponge, which should be boiled and hung out in the air immediately

HOW TO RAISE THE BABY

after use. Renew sponges often, as old ones are a most prolific source of disease contamination.

After the baby is carefully dried, he should again be anointed with cold cream or olive oil, to soften up any small sections of the *vernix caseosa* which may still adhere to the skin or scalp.

Be very careful not to use any undue force in removing this material, as you may injure the delicate skin in such a way as to produce an obstinate sore. If the scales of *vernix caseosa* are not removed with the second or third bath, they will soon dry up and drop off of their own accord.

Many eminent baby specialists advise the postponement of the first bath for twenty-four hours, or even longer, until the child is somewhat stronger and more accustomed to his new environment.

They merely smear olive oil liberally over the body, wipe this gently off—or else leave a considerable amount as a protection to the skin, and to assist in dissolving and removing the *vernix caseosa*.

Others wrap the child in cheesecloth dripping with hot milk, and then wrap the precious bundle in a warm blanket.

It must be said in favor of this last method, that warm milk is very bland and soothing to the skin, and also has a pronounced solvent effect on the smegma (the *vernix caseosa*). Its use in the manner described might often prevent a chronic eczema, or other skin eruption, having its origin in the irritation arising from the use of soap. There is, of course, more danger of an injurious irritation if the soap used contains an excess of potash or other alkaline substance.



Mother and Babe.

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CARE OF THE BABY'S EYES

The eyes and mouth of the new-born baby call for the most exquisite care, the former especially, as they are so marvelously delicate.

It is almost a routine practice nowadays, with doctors and midwives, to instil a drop or two of a one or two per cent solution of nitrate of silver into each eye, at the earliest moment after birth, to insure the destruction of any germs which may have been lying latent in the birth canal and from there been transferred to the eyes, possibly to cause blindness later on.

It is always better to err on the safe side and take every possible precaution against infection. If any pus appears, the eyes should be carefully wiped every hour with a solution of ten grains of boric acid to an ounce of water.

Should the lids have a tendency to stick together a little vaseline may be rubbed into them each night. This will usually clear up the condition.

Also, for the cleansing of the eyes, a solution of boric acid and small pieces of old linen should always be kept on hand. The linen should be boiled, baked in an oven, or steamed, before using. The usual antiseptic solution is boric acid, in the form of powder, in the proportion of one teaspoonful to a pint of boiling water. It should be kept well corked, so that it will be free from dust and other possible contamination.

Pour out only what is needed each time, after carefully cleansing the mouth of the bottle. The old linen squares should be used lavishly, never letting the same piece serve for the washing of both eyes, but using a separate one for each, and another for the mouth.

FIRST CARE OF THE NEW-BORN INFANT

CARE OF THE NAVEL

After the baby has been bathed and due attention given to eyes and mouth, the navel may be dressed with a tiny compress of old linen liberally oiled to prevent its adhering. Or a small square of linen with boric acid or stearate of zinc may be used. Many specialists prefer this to the oil and consider the stearate of zinc superior to boric acid, because its antiseptic properties are greater.

The cord is usually wrapped rather tightly in this dressing by cutting a small hole in the cloth, passing the cord through the hole and laying it on top of at least one layer of cloth—so as not to have it in contact with the body. The dressing is renewed each day until the stump has withered and finally separated from the body. This usually occurs in about a week. A small pad of soft linen may be then placed on the umbilicus.

The navel dressing is held in place by a flannel band around the abdomen, which is also supposed to serve the purpose of supporting the walls of this part, and thereby preventing an umbilical hernia, or any weakness of the abdominal wall which might, in later life, develop into a hernia.

I think, however, that the time may come when we will treat the cord as Nature treats the cord of a calf or colt. She just scabs over the stump, and lets it alone. It heals normally, and that is all there is to it.

As for the belly-band, I see no use for it except to hold the navel dressing in place, and, while it should be snug enough for this purpose, it should never be tight, as a tight band interferes with the circulation, the activity of the skin and the breathing, while, by pressing on

HOW TO RAISE THE BABY

the stomach, it sometimes causes the child to vomit. The truth is that there is no danger of rupture at the navel unless the baby is overfed to such an extent that his little stomach is abnormally distended, and then the danger will be much greater if the muscles of the abdomen have been prevented from developing by restriction of their activity.

BABY'S FIRST MEAL

After baby has safely arrived, and the nurse or attendant has bathed and fixed him up, and the mother has rested a little, it is advisable to bring him in and put him to the breast.

This is good for both mother and baby. It helps the mother by exciting uterine contraction, thereby preventing danger from hemorrhage, and it helps the baby because that peculiar liquid, known as *colostrum*, with which the breasts are filled before the milk appears, acts as a cathartic.

Colostrum is a thick, yellow secretion, not in the least like the bluish milk subsequently secreted. If you were to examine it under a microscope, you would find it contained some milk globules and a lot of fat corpuscles. The latter have a natural laxative action, producing, with less irritation than there would be from any cathartic which could possibly be substituted for it, a discharge of the *meconium* with which the infant's bowels are loaded.

DON'T PUT THE BABY TO THE BREAST TOO OFTEN

For the first few days, while the secretion of milk is being thoroughly established, the baby should be put to

FIRST CARE OF THE NEW-BORN INFANT

the breast only at long intervals. For repeated attempts at suckling an empty breast are depressing to the spirits of both mother and child. Also by unduly irritating the breasts, they may do harm to those organs.

For the first day or two, therefore, it is enough if the child is brought to the breast five or six times within twenty-four hours.

There is no need for anxiety lest the child should not be getting enough nourishment. For Nature, again, has provided for this, in the stored-up nutriment in its tissues.

If a few teaspoonfuls of boiled or distilled water are given from time to time—from a spoon or from a baby's bottle—it will be quite safe to wait until the milk is secreted for more frequent feedings.

The milk "comes in" about the second or third day, and if the supply is sufficient for the baby's needs all is well. If not, it will be necessary either to get a wet nurse, or to supply the deficiency with a milk modification.

We shall take up this question in detail in a later chapter.

BABY'S FIRST SLEEP

After the child is properly taken care of, slipped into a tiny shirt, then into a comfortable dressing gown, and given its first short nursing, place him in his crib or bassinet in a thoroughly ventilated room, when he will be off to dreamland in a twinkling.

Let those around baby's quarters bear in mind the quietude from which he has so recently come and shield

HOW TO RAISE THE BABY

him from loud or jarring noises, remembering that his greatest needs just now are rest, quiet and comparative darkness, together with plenty of fresh air.

So shall he begin aright to take his place on life's vast stage.

CHAPTER II

Baby's First Need

"A Fairy came from her opal cave,
In the depths of the onyx sea,
And brought a babe with golden hair,
And sparkling eyes like diamonds rare.
And lips like rose, and skin so fair,
And little hands with dimples deep
To rub his eyes when he wanted sleep,
And short plump legs with which to creep."

THE old superstition that divine revelation will enable a mother to care for her baby with unerring wisdom has long since been passed into the discard. It is now well known that to trust to a mother's love and instinct, unless they are supplemented by knowledge, is to lean on a broken reed.

Even before the arrival of the child the mother-to-be should bring all her God-given powers to bear on the task of learning how she may assist Nature in perfecting the unborn, instead of going on blindly in the belief that Providence will help those who refuse to help themselves.

Oliver Wendell Holmes tells us that the education and training of a child should properly commence with its grandparents, if a child is to have the inheritance it has a right to demand of its progenitors.

Be this as it may, of one thing we are certain, and that is that since this little bundle of responsibility has arrived, we must shoulder the burden with a fervor that will enable us to meet each phase of the situation as it presents itself with courage and joy.

HOW TO RAISE THE BABY

THE BABY'S PHYSICAL NEEDS OUR FIRST CONCERN

At first the baby's physical needs and development demand all our care and attention, for the intellectual faculties are as yet inactive. Our aim in the beginning must be to assist Nature in building aright the body which is the temple of the budding soul.

The first essentials of life being air and warmth, let us give these due consideration. As was mentioned in the foregoing chapter, the babe, up to the moment of birth, has been breathing through the medium of its mother.

As soon as this connection is broken it must begin to breathe for itself. Its first demand upon the new world into which it has entered, therefore, is for oxygen. It can wait a while for its bath and still longer for food, but it must have air at once. The baby's first requirement, then, is a well-ventilated, warm apartment.

ALL THE PURE AIR HE CAN BREATHE

If our babies are permitted to breathe a pure atmosphere from birth, by day as well as by night, and are given sun baths, they will grow and expand with all the strength and beauty of the things of the outdoor world, even though much of their time is spent indoors.

But even when we have gained a point in the direction of free ventilation, we too often have another popular barrier to break down. This is the erroneous impression that the lungs, through the medium of the mouth and nostrils, form the sole respiratory channel.

LET HIM BREATHE THROUGH THE SKIN, TOO

This, however, is far from correct. For the skin has an important part to play in the respiratory economy

BABY'S FIRST NEED

and it is seriously hampered in the performance of this function by either an overabundant supply of clothing, or a lack of proper cleanliness. More babies have their health permanently impaired by being overclad than by being underclad. We shall deal with this question in detail in a later chapter.

The needs of the infant are comparatively simple, when they are properly understood. All that is required is that you use good, common sense, eliminate non-essentials, and concentrate on the essentials.

This leads to the brief but all-sufficient rule: Give baby his natural food and fresh air without stint and keep his body warm. Compared with these, all his other needs are as nothing. By meeting these requirements you will lay the foundation for a healthy babyhood and a robust manhood or womanhood.

CHAPTER III

Baby's Sleep

Last night, my darling, as you slept,
I thought I heard you sigh,
And to your little crib I crept,
And watched a space thereby;
And then I stooped and kissed your brow,
For oh! I love you so—
You are too young to know it now,
But sometime you shall know.

—*Eugene Field.*

AS baby is to spend the greater part of the time for the first three months of his life in slumber—for every healthy, happy youngster does so—it is important that he should be provided with a comfortable bed and that this should be placed in a favorable position.

I make special mention of a place for the bed because so few realize that it makes any difference where baby is laid when he falls asleep. Many a mother has the unfortunate habit of dropping her sleeping child on the foot of her own bed, on the sofa, or indeed on any comfortable-looking spot that presents itself at the moment, instead of running the risk of disturbing him, as she fancies, by carrying him to his own cot, even if it be ever so short a distance away.

The bed should be placed near an open window. If you are among those fortunate ones who are not obliged to live cooped up in the city, it can even be placed outdoors, if protected from direct light, direct drafts, flies and insects.

Always place the bed, crib, or bassinet, with the head toward the light. If the little stranger happens to wake

BABY'S SLEEP

and lies quietly looking about him, as a healthy baby will frequently do, his eyes will therefore not be overtaxed by the light shining directly into them. Many a case of defective eyesight has had its origin in the dear, fussy, grandparents pulling open the eyelid in a bright light to see if baby has brown eyes like his mother!

For a long time the child's eyes must be protected from *bright* light. In fact, it is a wise custom to keep the youngster in a shaded room during the first week after its arrival. Sun baths are not to be tabooed, but the youngster should lie on its stomach, with its eyes away from the sun. Or the eyes may be bandaged with a green cloth.

NEAR A WINDOW IN A CITY APARTMENT

If you live in the city, by all means place the baby's crib where he can get plenty of outdoor air.

For there is nothing in all this world—not even food itself—that is more important to health. Remember that a healthy grown person can live without food for from one to three months, but he cannot live without air for three minutes.

In the winter, or in rainy weather, of course, the crib must be removed somewhat from the open window, but never put it in a remote corner where little light or air can reach it.

The baby's sleeping apartment need not, of course, be entirely shrouded in darkness. From earliest infancy let him have a certain amount of light and an abundance of air. He should sleep sometimes in the dark so that he will learn not to fear it, but he should also be trained to sleep in a moderate light, so that his slumber need

HOW TO RAISE THE BABY

not be interfered with by every variation in these conditions.

Though the dainty bassinet, with its filmy lace and ribbons, will appeal to most mothers, it is really not the most desirable resting place for baby, and can be of service but for a short time. For his little legs grow amazingly fast. Therefore, wisdom suggests that something of a more utilitarian character be procured for him at the beginning.

Perhaps the best of all beds is a little iron or brass crib which will do service for years.

Over the bottom of the crib spread a sheet large enough to come well up over the sides. This is to be folded over the top of the mattress so that the latter may be kept free from the dust that is constantly rising from the floor and seeking lodgment in its tabs and binding. Dust on this sheet can be quickly and readily brushed off.

The mattress should be of hair—never feathers. When baby grows older, however, an air mattress may be used. This is extremely comfortable, and can be recommended to all parents who can afford to give their children such a luxury.

Baby's sheets should be of cotton, for this is softer, more comfortable, and infinitely warmer than linen; and the wee mite needs the extra warmth, except on hot, humid and stifling days.

HAVE PLENTY OF BEDCLOTHES

In regard to bedclothes, as well as to baby's wardrobe, it may be said that it is better to have quantity than quality. Insure him an abundant supply of fresh, sweet,

BABY'S SLEEP

inexpensive things, rather than skimp him for the sake of superior quality.

Bed linen which has once become damp should never be used again without being washed, and if possible it should be sterilized by boiling and exposure to sunlight. The idea that airing and drying are all that is necessary is entirely wrong. We grown-ups would surely rebel against such methods. Why then should we inflict them on a poor helpless baby, whose delicate skin is so much less fitted than our own to tolerate anything of an irritating nature.

HOW TO PROTECT THE MATTRESS

The mattress should be protected beneath the lower sheet by a square of rubber sheeting over which is placed a quilted square. Both of these articles can be purchased very reasonably and wash well.



The bassinet, although attractive, is not the most helpful type of bed for baby, and is difficult to keep perfectly clean.

HOW TO RAISE THE BABY



A modern type of crib.

The old practice of using a folded blanket for protection is not a good one, as the blanket becomes harsh through frequent washing. The pad of cheese-cloth filled with cotton should also be tabooed, because it will not wash and is, therefore, too apt to be dried and used again, a thing I cannot too strongly condemn.

BABY'S PILLOWS

Baby's pillows should be quite tiny, about an inch thick and made of hair, instead of down or feathers. They may have dainty linen slips, if within the means of the parents. If not, cotton slips, kept fresh and dainty, will do very nicely. But as with sheets, there should be plenty of them, and a second pillow encased in a fresh slip should be kept for use in case of accident.

BABY'S SLEEP

A pair of baby blankets is the next thing required, and I would impress upon you the advisability of getting them large enough and light enough. The best ones are those made at home from a fine quality of blanketing, and bound with narrow wash ribbon. In this way they can be made just the right size, neither large enough to be cumbersome, nor yet so small as to be constantly slipping off the crib.

Your little coverlid may be as pretty as you can devise, so long as it is light in weight, for it is really more for ornament than for use.

AIRING THE BED

When baby is not in his bed it should not remain made up, but should be opened and its clothes and mattress exposed to sun and air until it is needed again.

Bathing and feeding times afford ample opportunity for this purifying process. Warm the bed before putting the baby in it again, especially if the day is cool or cold.

HOW MUCH SLEEP SHOULD A BABY HAVE?

The rules governing a baby's sleeping should be much more flexible than those applied in the case of adults.

For one thing, fast-growing children need more sleep than those of slow growth, though deficient sleep may be one cause of retarded growth. Babies require and should get more sleep in winter than in summer. And vigorous children need less than delicate ones.

HOW TO RAISE THE BABY

At a rough estimate it might be said that for several weeks babies can use from eighteen to twenty-two hours out of every twenty-four very profitably in sleeping, or about nine-tenths of the time.

This period gradually declines until at the end of six months they sleep only about two-thirds of the time, and by the third year one-half. By the sixth year, if left to their own good sensible instincts, they take about ten hours. Until three and a half or four, a daily nap is essential, and the practice of taking this secondary



Always place the crib in such a position that the light will come from behind it, thus preventing a glare in the baby's eyes.

BABY'S SLEEP

interval of repose should continue to six or seven, if possible. Don't fear that the child will sleep too much. Let him sleep all he wishes to, and never wake him to feed him.

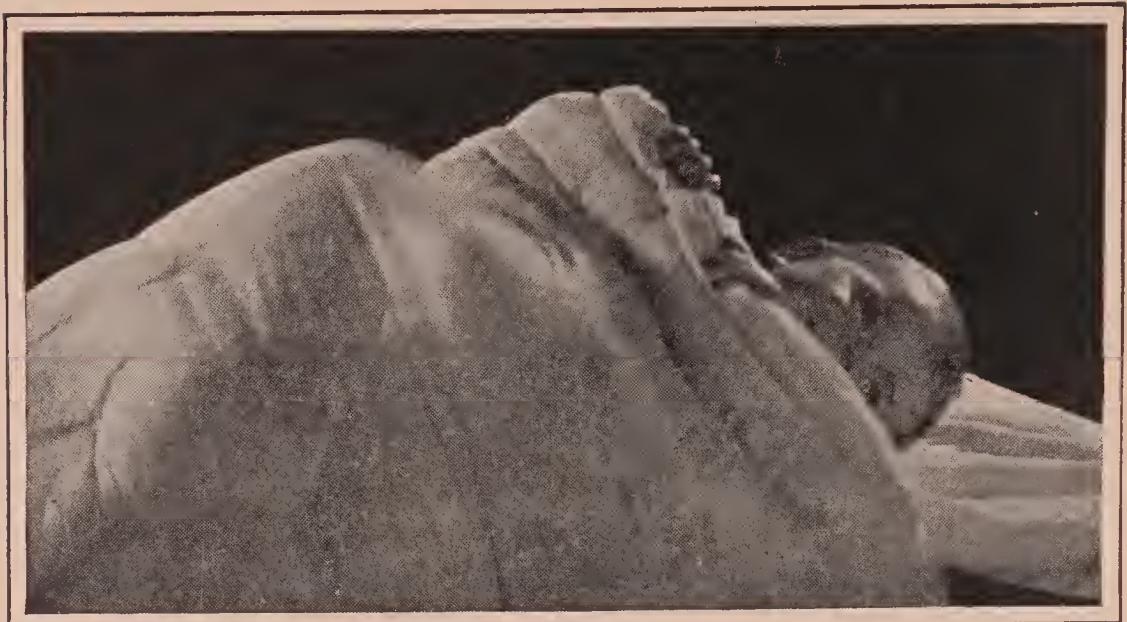
To awaken a child means to disturb the processes of development, and this should always be avoided, while it will do him but little harm to go hungry occasionally. There is always some stored fat that Nature can utilize to keep up temporarily, at least, the vital forces. In fact, the skipping of a meal occasionally may improve the child's appetite, so that he will take more food in the end as the result of his abstinence.

WHAT IS THE PROPER SLEEPING POSITION?

The little one's best position during sleeping or waking hours, is on his abdomen, with head turned so that the cheek rests on the pillow, though there is no special objection to his lying on his side. In either of these positions should there be the slightest regurgitation, the clotted milk will not choke him, for he will be readily able to spit it out.

While the child should be kept reasonably quiet during sleeping hours, he should not be too closely guarded from noises, as this is likely to make him unduly sensitive to them. He will soon become accustomed to the ordinary sounds of the household, and will not be disturbed by them unless they should be sudden, harsh, or jarring. Such sounds, in view of his delicate organism, should be carefully guarded against, as should also a continuous clatter and din, which, though they may not wake him, cannot fail to have an unfavorable influence.

HOW TO RAISE THE BABY



No pillow and lying on side: comfortable and correct position for sleep.

DO NOT ROCK THE BABY

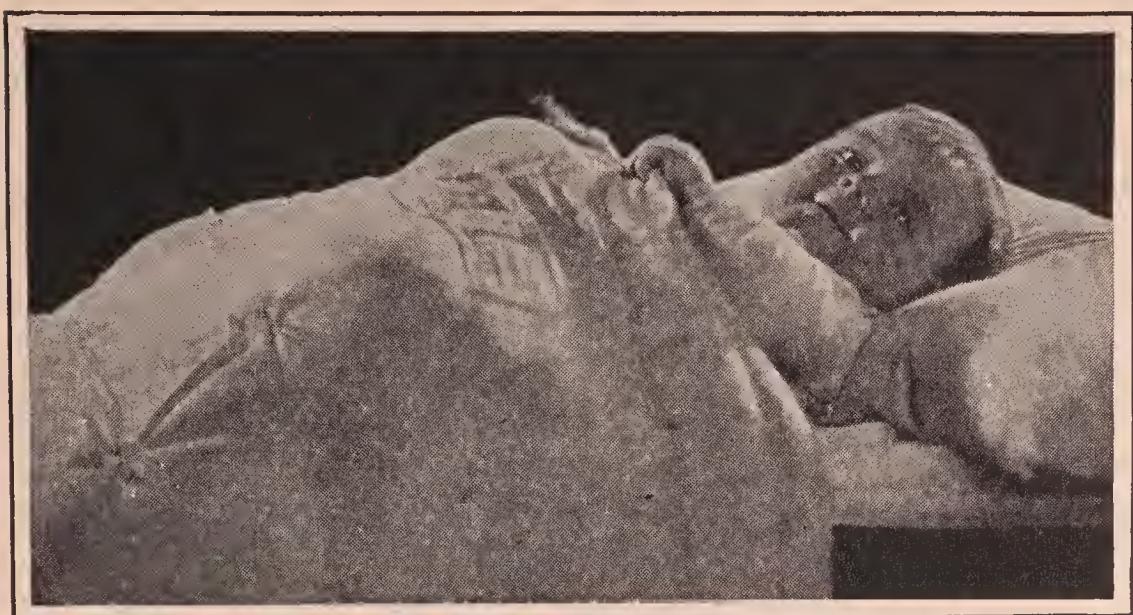
The habit of rocking or, indeed, of lulling baby to sleep in one's arms, is a bad one. Rather accustom him to being put back in his crib after nursing.

For his education has now begun, and what is done from the beginning will be expected by the child later on.

It is amazing how quickly a child will "pick up" a habit. Rock him to sleep only *once*, and he'll remember the experience, and demand its repetition, in ways that sometimes are nothing short of tyrannical.

It is a matter of common knowledge that mothers frequently rock their babies as though they were attempting to shake sleep into them. Indeed, it is a common sight, as one walks along the street, to note a mother madly rocking the carriage in which her baby is supposed to be resting, in the futile endeavor to put the child to sleep.

BABY'S SLEEP



Position flat on back tends to encourage mouth breathing.

This practice is absolutely vicious. In fact, the baby can not possibly be more comfortable in such a situation than you or I would be were we away in a small ship somewhere in the middle of the ocean, during the progress of a fierce typhoon.

Remember, sleep in children, as well as in adults, should be woood, not forced.

Another objection to rocking is that it puts a strain on the baby's eyes which it is well to avoid, especially when there is any tendency to strabismus, or cross-eyes, as is frequently the case with young children who have not yet learned to "accommodate."

WHEN BABY DOESN'T SLEEP

As every parent knows, nothing in the world will sicken a baby more quickly and surely than will loss of sleep. This condition is usually a symptom of something radically wrong with the child's health.

If the sleeplessness is habitual, occurring night after

HOW TO RAISE THE BABY

night, it is likely to be the result of digestive disorders, such as the formation of gas, or fermentative changes in the food. If the baby is bottle-fed, it may be possible that he is getting *too much* to eat. If breast-fed, he may not be getting enough, due to the fact that the mother's milk supply is deficient, or else that she does not keep the infant at the breast long enough to completely satisfy his appetite, and to supply the needs of growth and nutrition. But even breast-fed babies are too frequently overfed. During the first year the amount of food required is much smaller than is commonly realized. An analysis of the infant's stool shows by bulk and ingredients that only a small percentage of the milk ingested is assimilated. "Stuffing" the infant, therefore, cannot fail to upset its digestion and interfere with its sleep.

Occasionally, sleeplessness is due to too frequent night feeding. Infants accustomed to feed three or four times a night are rarely good sleepers.

Quite frequently restless, disturbed sleep may be due purely to nervous irritability.

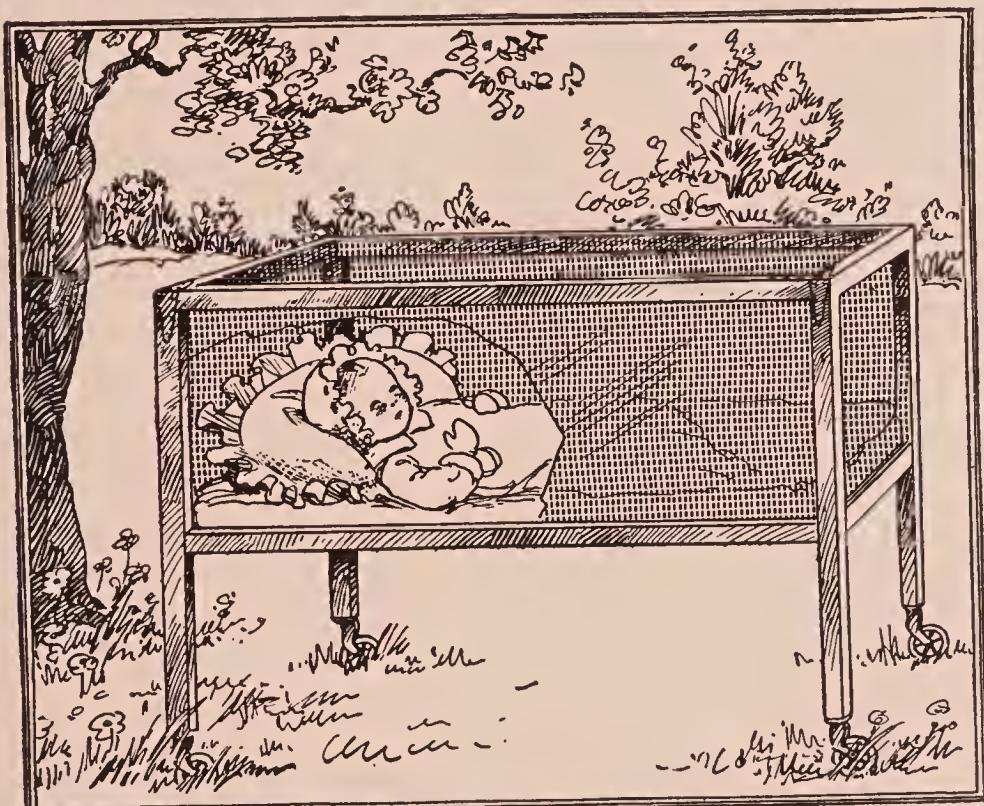
Bad habits developed by faulty training—as for instance, taking baby up and walking with him around the room every time he wakes at night or happens to cry; or rocking, either in a cradle, or by sitting with him in a rocking-chair, may cause an irritable condition of the nervous system that reflects itself in insomnia.

A baby will sleep better if the skin is well protected. It was well protected before birth, and must become accustomed gradually to the new conditions. As a rule, woolens are a better protection than cotton fabrics, though a mixture of wool and cotton, wool and silk, or

BABY'S SLEEP

wool and linen, is preferable to wool alone. Therefore, during the first month garments of such combinations should be worn during sleeping hours.

There is one practice I would specially urge to facilitate better sleep in infants. Instead of binding them up in heavy diapers, fold the diapers and place them beneath the body so as to receive the excretions and leave the genitals as free as possible from contact with



The kiddie koop or outdoor crib for baby.

the latter. Pinning the diapers up around the buttocks holds the stool and urine against the genitals, and adds to the irritation which they cause.

THE TIGHT BANDAGE INTERFERES WITH SLEEP

Another thing that interferes with the rest and sleep of the new-born infant is a tight bandage. I have seen

HOW TO RAISE THE BABY

infants on whom circumcision had been performed, or on whose eyes a powerful solution of nitrate of silver had been used, pass off into quiet sleep and sleep undisturbed almost twenty-two hours out of the twenty-four. Also, I have seen children with no cause of discomfort but a snug binder fret and cry from birth until this was removed.

I should also urge the use of loose bedclothing, for the less the child is restricted the more quietly it will sleep.

If baby's signals are considered from the first, as they should be, he will soon learn to give a warning cry whenever he is wet. Then a quiet, skilful mother can make the needed change with so little disturbance to him that he will scarcely awaken. Or, if he does, he will drop asleep almost instantly again.

After a very short time, when he shall have accustomed himself to regular habits, a watchful mother can anticipate his needs, and by taking him up at the first sign of significant restlessness, she will be rewarded by having the most enviable of all earthly possessions, "a clean, sweet baby."

LET THE BABY ALONE

Having provided the baby with a comfortable bed in a well-ventilated room, having seen that it is properly clothed and fed and so forth, it only remains to let it alone and watch it grow as the flowers grow.

During a child's early life its main function is to eat and sleep, and he will attend very strictly to that business if allowed to. When not doing either of these things he will, normally, lie contentedly in his crib wriggling and kicking and getting needed exercise.

BABY'S SLEEP

Ordinarily he should be taken up only to be fed, bathed, or changed.

Many people seem to think that a baby is a toy provided for the amusement of relatives and friends, and do not scruple to interfere with his very important business of growing up whenever they want to entertain or be entertained. In other words, it is considered perfectly proper to take him from his crib at any time when he is not sleeping for the purpose of exhibiting him, kissing, cuddling and bouncing him about.

This practice is a very pernicious one. The mother, perhaps, cannot be denied altogether the privilege of exhibiting her child to admiring friends, or of taking him up in order that she may lavish upon him her own caresses ; but such disturbances should be reduced to a minimum, for they are very trying to the child's nerves and may even cause direct injury to his delicate little organs.

Still another harmful result may be to start the child in life with an exaggerated idea of his own importance. If his own common sense does not correct this error later on, it is not too much to say that it may land him eventually in an insane asylum, for the "exalted ego" is the most common delusion of the insane, and frequently has its origin in the first few years of the demented one's life. The Japanese are exceptionally free from this delusion. This is due to the fact that they do not pamper their infants. The early years are the most impressionable, and only too often infants are led astray with wrong impressions.

As Josh Billings puts it: "Man never was born a fool, he only was supplied with the raw materials."

HOW TO RAISE THE BABY

Whatever you may do elsewhere, always maintain perfect composure in the presence of your children, for mental disturbance retards both mental and physical growth.

Always treat children as incidents, not as the acme of events. This does not mean that you should show indifference to them. Just the contrary, for it puts the child on a common plane with you if you treat him as an equal.

CHAPTER IV

Baby's Bath

Clear and cool, clear and cool,
By laughing shallow, and dreaming pool;
Undefiled for the undefiled—
Play by me, bathe in me, mother and child.

—Charles Kingsley.

BABY'S daily bath should be alike a benefit and a pleasure to him. If judiciously given, it will not be long before he will look forward to it eagerly. But judgment is required in this as in all other things pertaining to his care.

For instance, it would be decidedly unwise to immerse baby at once in a cold bath, although such a bath will be one of his greatest luxuries and benefits in later life. Not only do we need to gauge the temperature of the water, but also that of the room in which the bath is given.

The temperature of the room is of more importance than the temperature of the bath itself. It should be at first from 80 to 85 degrees Fahrenheit. Everything should be in readiness before beginning operations.

PREPARING FOR THE BATH

Baby will have had breakfast with a nap following, which will probably bring the time up to about ten. The bath basin should be filled with water at a temperature, for the first few weeks, of about 98 degrees, and afterward at a degree lower each week until it is 90, or even as low as 75 degrees. Now you need a piece of white

HOW TO RAISE THE BABY

castile soap—of the best quality, of course—a soft wash-cloth, and towels, preferably old ones, soft and worn.

The temperature of the water should be taken with a reliable bath thermometer. It should not be guessed at, or accepted on faith.

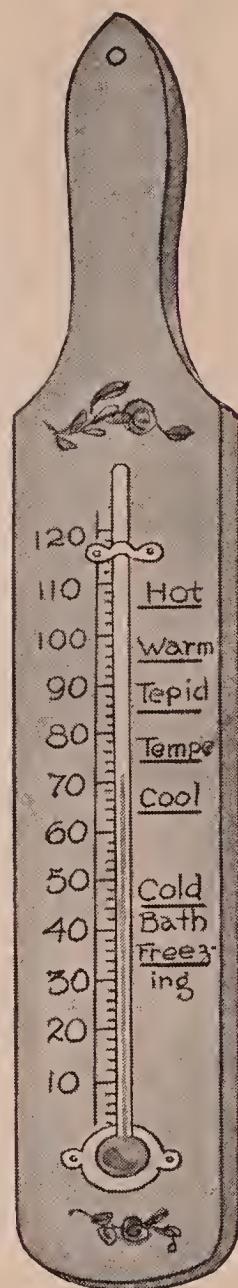
If you haven't a bath thermometer, you may test the water for the first few baths by putting your elbow in it. Do not trust the reaction on the hand, as this is not sufficiently reliable. But if the temperature of the water is just about that of the elbow, you can be pretty sure that it is approximately of the proper temperature. As the temperature of later baths is gradually lowered, a more accurate method of testing it should be adopted.

BORIC-ACID SOLUTION FOR EYES AND MOUTH

For the first three or four weeks, at least, you will want boric-acid solution with which to wash baby's mouth and eyes, using a small bowl for this purpose, and tiny pieces of soft old linen.

These last serve also for the dressing of the navel. A little olive oil may be placed on the linen to prevent it from adhering.

The dressing of the navel will be required only for a few days, however. If the wound is kept clean, the



Bath thermometer with Fahrenheit scale showing the temperatures of different thermal baths.



The modern bathinette, with its convenient pockets and dressing table, is a great aid in making baby's bath comfortable.

[33]

HOW TO RAISE THE BABY



These illustrations and the one on the opposite page show the position in which the baby's body should be held and the manner of supporting its head in various stages of washing, bathing and dressing. During its early months baby's head should never be allowed to hang unsupported.

remnant of the cord will soon shrivel up and drop off as painlessly and uneventfully as does the cord of a young kitten.

HOW TO PROCEED WITH THE BATH

Now, having donned your bathing apron, undress the wee one, snuggling him closely to you to keep him warm. Having poured a little of the boric-acid solution into the bowl and washed your own hands, or better, dipped them into a separate cleansing solution, put in baby's bowl a few of the little scraps of linen and

BABY'S BATH

wash his eyes. Always wash from the outer angle inward, being careful never to use the same cloth on both eyes. These cloths should be discarded at once after use, and never dropped into the clean solution.

Next, wash the little mouth in the same manner, after which baby may find a teaspoonful of water grateful.

Now, for the first three or four weeks, wash the face and head, drying these directly and then proceed to bathe one member at a time—neck, chest, arms, etc.—

always drying each as bathed, to prevent chilling from exposing too much of the surface at once.

This piece-meal mode of operation keeps the sensitive body comfortable throughout the bath.

When the entire body has been bathed, immerse baby gently in his bath for a second, so as to accustom him to the sensation,



Illustrating how the young baby's head should be supported while it is being bathed.

HOW TO RAISE THE BABY

for when he is three or four weeks old he is going to be bathed in the tub, instead of on his mother's knee.

After the bath is over and before dressing the child, he should enjoy the luxury of a rub. This is especially grateful to his little back on which he spends so much of his time, until or unless his mother has learned the value of the stomach-down position.

Lay him across your knee and rub gently but firmly with your hand only, up and down the spinal column, until it is suffused with a soft pink glow, and baby will invariably stretch his little limbs as if asking a rub in that direction as well.

This mild form of friction accelerates the circulation, and at the same time provides a soothing, beneficial form of exercise.

He will now probably be just comfortable and fatigued enough to find his cot grateful.

But if he feels like romping, and the room is warm enough, do not be in haste to dress him. Let him take his exercise with unrestricted body—without clothing, or in the thinnest and loosest of wrappers.

HOW TO GET BABY ACCUSTOMED TO COOL BATHS

If the temperature of the water is lowered daily and almost imperceptibly, the baby, in an amazingly short time, will come to enjoy the cool water, and will manifest his pleasure by kicking, crowing and splashing, as soon as he is placed in it—providing it is not below 80 or 75 degrees at the lowest, and proper precautions in regard to room temperature have been taken.

Except in certain rare disease conditions the cold bath should not be given before the age of three months.

BABY'S BATH

In case a cold bath is desired, in the heat of summer and for a child over three months of age, it is better for general health and for immediate effect to continue the bath until the pink has returned to the skin, showing that full reaction has been established. It requires approximately a minute for this reaction. Such a bath should not be given at a lower temperature than 75 degrees. This bath has a decided tonic effect.

If for any reason a soothing bath is desired to promote sleep, a warm bath at night will be helpful. An immersion at 90 to 98 degrees Fahrenheit, continued for fifteen or twenty minutes, will give several hours of very restful sleep.

Such a bath at night will not be injurious, as the long, relaxed sleep will allow the child to fully recuperate from any slight weakening that may result from it.

While the evening bath may be for either cleansing or relaxing purposes, the morning bath should be for cleansing only. For this purpose it need not and, in fact, should not be a lengthy affair.

At first the room temperature should be from 80 to 85 Fahrenheit. This will prevent too rapid evaporation of the water on the surface of the child's body, which might result in a chill, as happens most frequently in a very warm room. After two or three weeks the room temperature may be gradually reduced to 75 degrees.

If a baby is vigorous, a good "hardening" treatment is a warm bath followed by cool water poured over the shoulders and chest and abdomen, and also allowed to run down the back. The temperature of the water may be gradually lowered from 85 to 75 degrees, or even to

HOW TO RAISE THE BABY

65 for a very vigorous child of four or five months or older. This cold douche should not be continued, however, longer than a minute or so.

AVOID EXCESSIVE USE OF POWDER

The excessive use of powder for baby following the bath is a practice to be strongly condemned. For if he be kept sweet and clean, there is but little necessity for powder to clog the pores of the skin, which should be kept open for the sake of health.

If the baby is quite plump, and there is any evidence of chapping in the "hinges" of the elbows or knees, or between the thighs, a little stearate of zinc is useful.

This is also valuable because it prevents irritation from the urine.

CHAPTER V

Baby's Nursery

It makes us all feel good to have a baby
on the place,
With his everlastin' crowing and his dimpling,
dumpling face;
The patter of his pinkey feet makes music
everywhere,
And when he shakes those fists of his, good-by
to every care!

—Eugene Field.

BABY'S nursery is his castle. As we hope for a happy reign for him therein, let us provide him a suitable environment. If the house is a small one, there will not be much choice as to the location of his chamber, but nevertheless, let the big folk give precedence to his little majesty, and yield him the choicest spot in it.

Light and air are essentials, and if possible, there should be a southern exposure. For, although we hope that our model baby will have his daily outing, inclement weather or inability to have someone always ready to take him out may sometimes necessitate his getting his airing indoors.

If, on these occasions, the windows are thrown wide open and the baby dressed as for outdoors, he will derive almost the same benefit as though he had had a real outing. Of course, when he is old enough to toddle about, he will enjoy doing so a thousand times more than being cooped up in his crib or carriage, and will derive far greater benefit from it.

HOW TO RAISE THE BABY

DON'T PUT CARPETS IN A NURSERY

The nursery should never be carpeted, but should rather have a hardwood or painted floor, linoleum, or cocoa matting, upon which may be a rug or square of carpet, this latter being removed daily to be brushed or shaken.

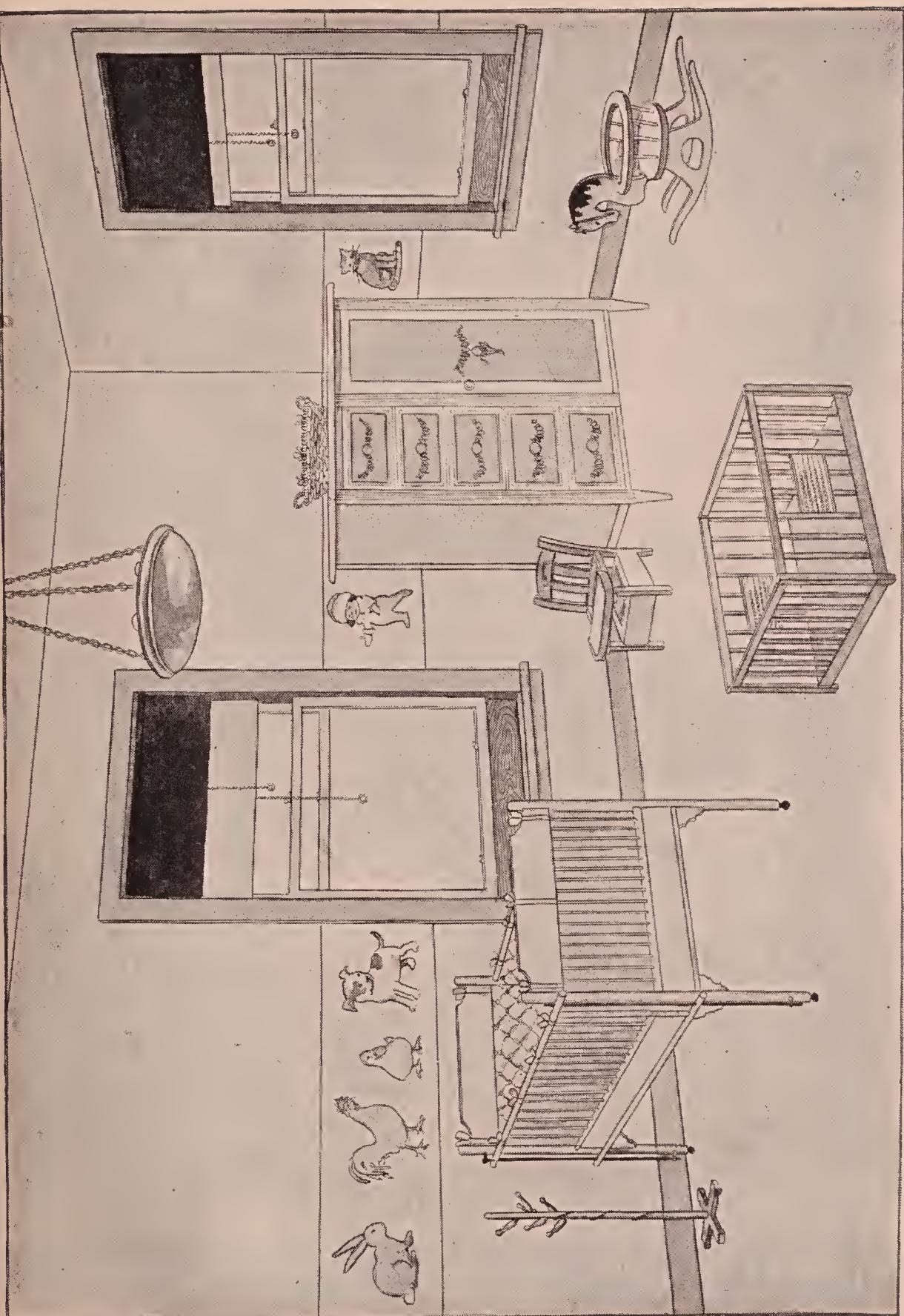
The nursery thus sanitarily equipped can have the floor washed daily, or brushed. Baby is thus saved from breathing dust-laden air continually, as is inevitably the case when the floor is carpeted.

The only hangings permitted in the room should be of wash material, preferably muslin. As a matter of fact, however, the ideal nursery would have no curtains at all to catch and retain the dust, but rather dark shades, or better still, inside lattice blinds, or "shutters," the slats of which will aid in regulating the ventilation, as well as in moderating, when required, the power of the sun's rays.

HOW TO REGULATE THE AMOUNT OF LIGHT

However, this last can be managed nicely, even if one's house has not lattice blinds, by having on each window two closed curtains of glazed linen, one of which is white, the other green. By their aid the light can be adjusted perfectly.

The windows should at no time be tightly closed, either by night or day, except in severe cold, or unusually inclement weather. Perhaps one of the most excellent modes of establishing perfect, continuous ventilation is that described by C. E. Page, M. D., in his work "How to Feed the Baby, with Health Hints," from which I quote:



Representation of a corner of a room devoted to a baby's nursery. The illustration suggests the proper ventilation of the room, the softening of the lights by adjustment of the shades, and the position of crib where baby may have the air at its freshest without being exposed to draughts. The nursery should contain the fewest possible furnishings—as a cluttered up room collect dusts and is hard to keep clean.

HOW TO RAISE THE BABY

TO GET PROPER VENTILATION

“The true theory of ventilation is to obtain a perpetual and sufficient change of air without sensible draught. The following simple plan, as I have proved by years of experience, perfectly fulfills these requirements, and leaves nothing to be desired.

“The *Scientific American* endorses the plan, and places it above many, in fact most, of the elaborate and expensive devices. A three-inch strip placed beneath the lower sash of each window has the effect of ‘mismatching’ the sashes, causing them to overlap each other in the middle. The stream of air thus admitted is thrown directly upward, and slowly mixed with the heated air in the upper part of the room. As several windows in each room are thus provided, the vitiated air is constantly passing out at one or another of the ventilators.

“The strip being perfectly fitted or listed, no air can enter at the sill, and all can be so nicely finished as in no manner to mar the appearance of the most elegant drawing-room. A dwelling thus ventilated will never smell ‘close’ to the most sensitive nose upon entering it, even after a prolonged stay in the open air, a test that would condemn as unfit for occupancy ninety in the hundred sitting and sleeping rooms, as well as churches, halls, etc., the world over.”

However good the continuous ventilation, the nursery should have, in addition, a special airing every day. The baby’s daily outing furnishes an opportune time to throw open the windows and also the little bed, thus virtually turning the room inside out.

BABY'S NURSERY

DON'T LET THE AIR GET TOO DRY

If the nursery is heated by a radiator or hot-air

register, it is very necessary that provision be made for keeping a proper amount of humidity in the air of the room.

For nothing is more irritating to the delicate respiratory passages of an infant than air which has been cooked to death, and which contains little of its natural moisture.

To overcome this condition, it is well to keep a pan of water on the radiator with a small towel hanging therefrom down over the coils or

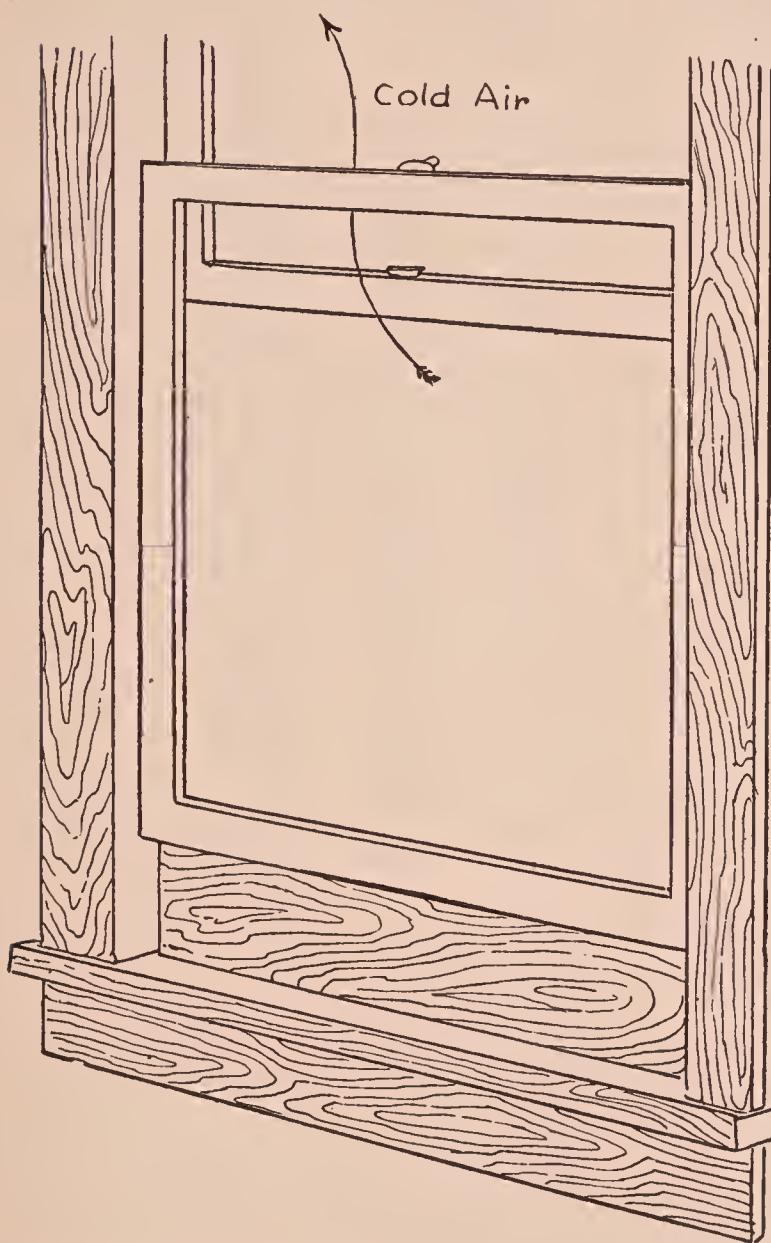


Diagram in detail of a method of ventilating baby's nursery. A strip of wood is inserted under the sash, the fresh air from the outside then passing into the room in the space between the two sashes as indicated by the arrow.

pipes, or some similar arrangement over the register.

HOW TO RAISE THE BABY

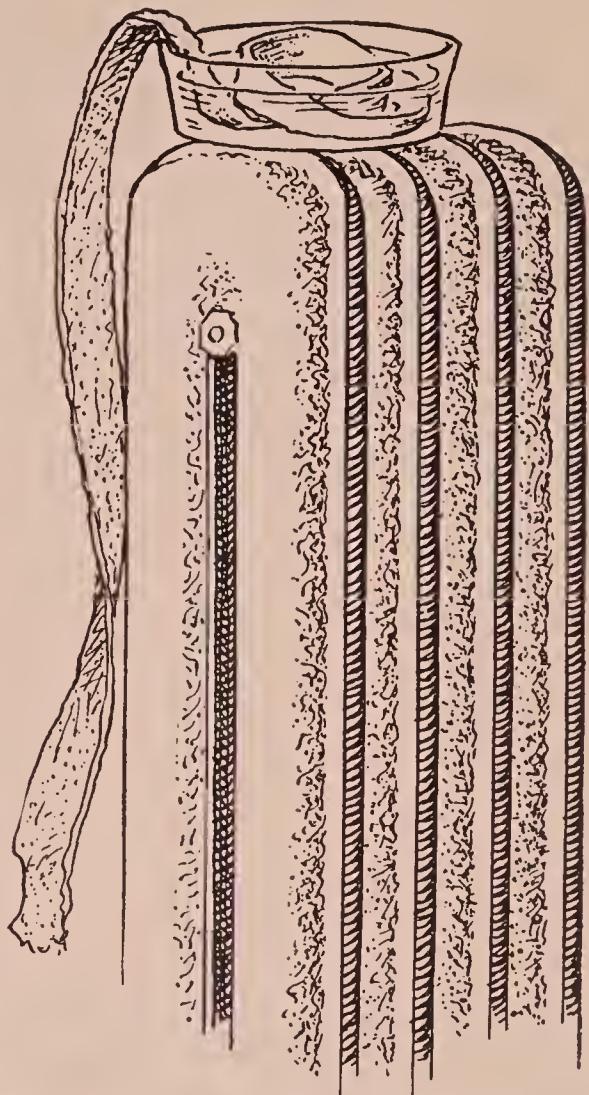
This will serve to keep a proper amount of vapor in the air.

It is almost unnecessary to mention that, for ideal nursery conditions, there should be no drying of clothes or wet napkins in the room, and that if gas-heaters or kerosene stoves must be used great care should be taken to see that the oxygen they consume is replaced.

DON'T MAKE A MUSEUM OF THE NURSERY

Next, as to the nursery furnishings. It is not well to have any more in the room than is necessary for comfort and convenience. The following would suggest themselves: Baby's bed, and the bed of nurse or mother—which, however, had much better be placed in an adjoining room—bureau, table, and low washstand, with fittings; also a nursery chair. These are the essentials; the adornment must be left to the individual taste.

But I would suggest that with the exception of a few



If the room which serves as baby's nursery is steam-heated by means of radiation, the drying of the air can be counteracted by placing a shallow pan filled with water on the radiator, the evaporation being assisted by suspending from the pan a heavy towel as illustrated.

BABY'S NURSERY

suitable pictures, the artistic side need not be strongly emphasized in these early days, as a multiplicity of things only serves to collect dust, and time and care are better bestowed upon baby than on the superfluous things in his quarters.

As he grows older, Lilliputian furnishings, and anything else that adds to the attractiveness of his surroundings without interfering with the utilitarian purposes of a nursery, may be added.

For the reasons given in Chapter III, neither the rocking-chair nor the cradle should find a place in a well regulated nursery. Both are conducive to the forming of bad habits.

CHAPTER VI

Baby's Wardrobe

"When thou thyself; a watery, pulpy, slobbery freshman, and newcomer in the Planet, sattest muling and puking in thy nurse's arms, sucking thy coral, and looking forth in the blankest manner, what hadst thou been without thy blankets and bibs and other nameless hulls; a terror to thyself and mankind."

—*Carlyle in "Sartor Resartus."*

THE proper care of baby's birthday clothes having been provided for, we must next turn our attention to "His Majesty's" wardrobe, first impressing upon every mother the fact that more infants are injured and hampered in the days of their early development by an excessive amount of clothing than by the lack of it. Only enough clothing for warmth should be the rule.

The old idea that the baby should first of all be incased in a veritable straight-jacket, as that instrument of infant torture, the abdominal band, most surely was, has been exploded.

The only band that is required to be about the baby's body should, as already stated, be just close enough to hold in place the tiny compress with which the navel is dressed.

It should rarely be worn for more than three or four months and usually, for vigorous babies, six to eight weeks will be long enough. With very thin children, or with those subject to diarrhea, it is worn loosely for a very considerable period, as a measure of protection against cold. In other children it serves as a preventive of navel or ventral hernia.

BABY'S WARDROBE



Baby's shirt.

HOW THE BAND IS MADE

The band in question is made of fine, soft flannel, the edges being left raw or pinked, but never hemmed or fancy-stitched, as this tends to make them tighter than the center, and thus most uncomfortable to baby's sensitive flesh. It should be about six inches in width and eighteen in length.

Next come the napkins. The material for these should be procured weeks in advance. Having been thoroughly washed in order to free it from the dressing that is found in all new fabrics, it should

be exposed to the sun and air and sprinkled occasionally with water. This treatment will soften it sufficiently for contact with baby's delicate skin.

Napkins should not be made very large. A large napkin is hot and uncomfortable, and likely, by its pressure on the little one's soft leg bones, to encourage any tendency to bow-legs that may exist.

THE BABY'S SHIRTS

Baby's shirts are best made of a mixture of silk and wool, or linen and wool, as these keep in a much better

HOW TO RAISE THE BABY

condition when washed constantly than does an all-wool fabric. They are also better for the very young baby if buttoned all the way down the front, or on one side, with small linen buttons and a narrow facing flap, than if they have an opening only at the neck, as in the latter case the putting on and taking off are uncomfortable for baby and troublesome for the dresser. If the shirts are made with a flap at the bottom, both back and front, on which to secure the diaper, they will keep down snugly and prevent the slipping away of the napkin at the waist.

Next to be considered is the flannel princess skirt, then one thin petticoat, and finally the dainty nainsook dress or slip.

Pinning blankets fortunately are now done away with by sensible people, as are also the long, cumbersome skirts of former times. None of the baby's gar-



The waterproof diaper is a great help for short journeys.

BABY'S WARDROBE



Baby's dresses should always be simple.

ments are now long enough to hamper his movements, and they are all loose enough and full enough to admit of free ventilation and unrestricted use of the limbs.

The little skirts and slips are made in the princess style, rather than on a tight waistband, as formerly.

HOW TO RAISE THE BABY



Baby's coat. Baby's clothes may be pretty without being fussy.

It is well to have a few tiny sacks and a light flannel dressing-gown for use when extra warmth is required. But baby should never be burdened with a featherweight more of clothing than is necessary for comfort.

A three-piece set, consisting of a Nightingale sack, cap and bootees of white mercerized poplin of fine quality, makes a most effective outfit for an infant. And a few white, or white and pink, or white and blue linen bibs might be added, to protect the front of the little dress.

BABY'S WARDROBE

In this outline I have suggested only the needful garments for baby's wardrobe. Many delightful additions will doubtless be made by the hands of a loving mother, and by admiring friends and relatives, particularly if a baby in the family happens to be a novelty; but they should all bear in mind the fact that when resources are limited, a sufficient supply of simple clothing is better than an inadequate quantity of more elaborate and expensive articles.

Baby's things cannot be of too delicate a fabric, for nothing is too dainty for the little bundle of sweetness. Yet speaking merely from the point of view of appearances, a fresh, wholesome, clean baby, in plain, inexpensive garments, is infinitely preferable to a baby in soiled or mussy finery. Most of us have seen babies far from clean and sweet, yet with voluminous lace-bedecked robes whose very condition bespoke the lack of a change which the poor, foolish parent's love of finery had robbed her of the means to provide.

Baby's nightgowns should be of the simplest pattern, and not sufficiently long to hamper his movements, while his little flannel robe or dressing-gown should be of the same length.

It is almost needless to say that only the thinnest gauze flannel undershirts should be worn during the heated days of summer, changes in the temperature being met by the addition of outer garments.

Great care should be taken to see that the baby is not kept too warm during the heat of the day; and equal care is necessary to guard against chilling in the cool of the morning and evening, especially at the mountains or the seashore.

HOW TO RAISE THE BABY

THE EXTENT OF BABY'S WARDROBE

It is most difficult to form an adequate estimate of the extent and probable cost of a baby's outfit.

If laundering is done frequently, a smaller quantity will suffice, and if means are limited, a sensible mother will find that she can do without much that might otherwise be considered necessary. Provided the baby's health and comfort are not sacrificed, the matter is one in which one can allow one's self considerable latitude.

I consider the following articles almost indispensable to baby's comfort:

Three flannel bands—the flannel that is mixed with cotton is preferable, as it does not shrink or thicken as do the all-wool materials.

Three flannel skirts, all of the above quality.
Three nainsook skirts.



Baby's bonnet, simple and attractive.

BABY'S WARDROBE

Three nightdresses.
Six dresses or slips.
Twelve pieces of cotton diapering.
One dressing-gown or slumber-robe.
Six little shirts.

Of course, with so small a wardrobe as the above, frequent laundering is necessary, but if one's means are limited, one can manage nicely with the foregoing. If, however, one is not restricted financially, a more bountiful supply of each, as well as dainty jackets, bootees and many little comforts, will readily suggest themselves. I have only enumerated the "needfuls," not the "delightfuls" of baby's wardrobe.

BABY'S BASKET

Baby's basket affords many delightful hours' work, and rewards the mother amply if she has the time to spend on it. The basket may be lined in one's favorite color, with a dotted Swiss over it.

The pretty tradition of "pink for a girl" and "blue for a boy" still survives. Yet I think the daintiest baskets I have ever seen have been entirely of white, which looks new each time that it is washed. Too often the colored silks fade, and thus lose much of their prettiness. As to the fittings for the basket, there is a wide diversity of choice and opinion.

For the mother of limited means, everything needful is provided in celluloid. Such articles are very dainty and pretty, indeed. They include brush, jar for oil or vaseline, tray, pin-box, soap-box, needle-case, and whatever else the fancy may dictate. These articles are procurable in white or colors. For those who can

HOW TO RAISE THE BABY



Wrong way to dress baby. Pulling dresses on over his head bewilders him and makes him uncomfortable.

secured in colors that harmonize. But of this side of the subject I will treat more fully elsewhere.

USE ONLY TWO PINS FOR BABY'S CLOTHES

There are, by the way, but two pins allowable on any properly dressed baby. These are the large safety-pins required for the diaper.

afford them, they come in sterling silver, tortoise shell and ivory, either of the latter two being preferable to the silver, which is readily discolored by atmospheric influences.

The bassinet, which comes under the heading of luxuries, rather than necessities, should correspond in color with the basket, and the entire outfitting of the nursery may be

BABY'S WARDROBE

The proper way to fasten the band is by stitching it up the side with needle and thread, because buttons, be they ever so tiny, or even tapes, are irritating to baby's tender flesh.

On the looser clothing, however, small-sized linen buttons may be used, and tiny pearl buttons may fasten the little dress or slip, except for a very young baby, in which case linen buttons throughout are certainly the most comfortable means of adjustment.



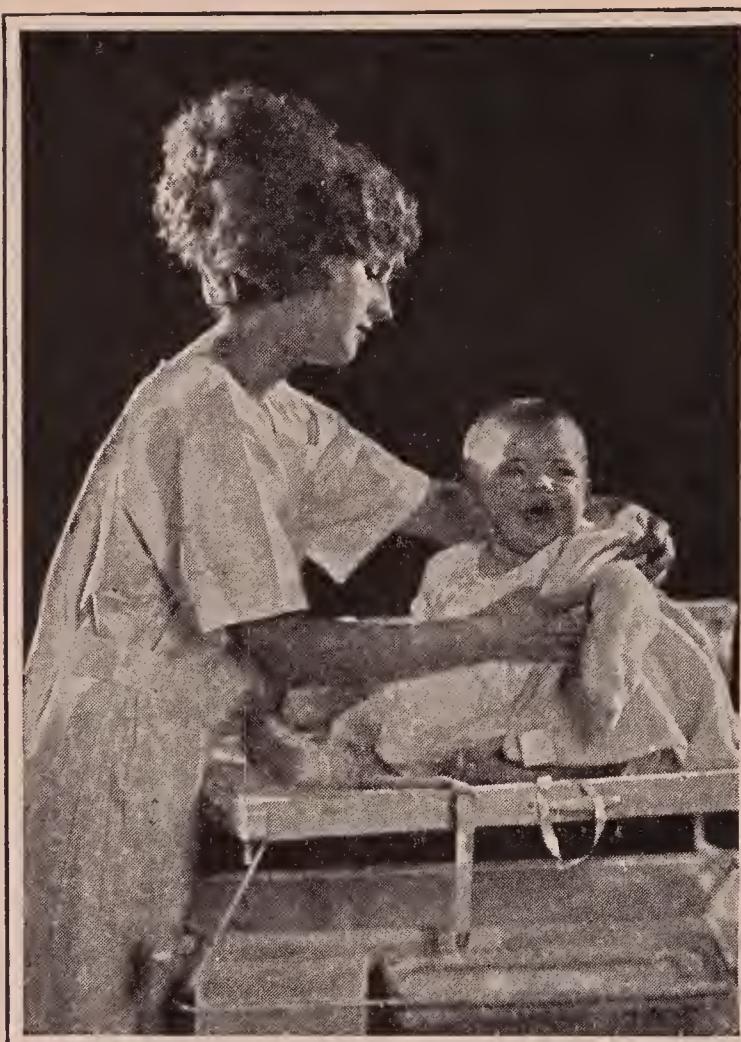
The right way to dress the baby. Draw all skirts up over his feet.

BABY'S FOOTGEAR

"To the ear of the mother, what sound more sweet than the patter of baby's feet?"

The less that baby wears upon his feet, the healthier and happier he will be. In warm weather, he is decidedly most comfortable, and better off as far as his health is concerned, without any foot covering whatever. At no season of the year should his feet be cramped or hampered by heavy stockings or shoes.

HOW TO RAISE THE BABY



Wrong way to dress baby. Never "yank" on a baby's sleeve.

the fact that among civilized people a perfect foot is hard to find after the age of infancy.

Either through carelessness, or for reasons of economy, mothers often continue to use shoes or stockings for baby's foot after the child has outgrown them.

With babies, as with adults, it is always well to have stockings, as well as shoes, amply large, in order to provide for the free movement of the feet, and avoid any interference with circulation, which restriction is

Socks are in every way preferable to stockings. Those of open mesh are to be preferred. But you must be careful to have them roomy enough. The cramping of the delicate foot of an infant is likely to produce such distortion as may be the cause of permanent foot trouble later on, and the practice has much to do with

BABY'S WARDROBE

very frequently the cause of the cold, clammy extremities from which many infants chronically suffer.

Fortunately for the future of a good many of the race, that most sensible form of footgear, the sandal, is not denied to the baby. And it is so simple and inexpensive as to be within the reach of every mother.

Sandals can be knitted of silk or wool, or they may be made of cloth, chamois or kid, as desired. None of them are very expensive.

An advantage of silk or wool over kid is that the former can be washed. Yet kid can be readily cleansed at home at trifling cost. And sandals made of kid are extremely pretty.

In making sandals use no pattern for the sole other



Right way to dress baby. Always gather the sleeve up and slip arm through.

to be within the reach of every mother.

HOW TO RAISE THE BABY

than the outline of the child's foot. The foot will not then have to accommodate itself to the shape of the sandal, regardless of comfort or future contour.

In addition to his sandals, it would be well to supply baby with knee shields when he is creeping. These are extremely simple in design, and can be made from remnants of the materials used for sandals.

In conclusion let me again emphasize the fact that comfort should be the first consideration in planning an infant's wardrobe. This is infinitely more important than is the satisfaction of the mother in the mere "pret-tiness" of the dear baby's costume.

CHAPTER VII

Care of Baby's Special Organs

Then she smoothes the eyelids down,
Over those two eyes of brown—
In such soothing, tender wise,
Cometh Lady Button-Eyes.

IT is not often that the eyes of a healthy baby born of healthy parents give any cause for anxiety. Yet it may happen, in spite of every precaution, that a child's eyes become infected at the time of birth. Then it is that these, the most sensitive organs of the body, call for untiring attention, since permanent injury, if not actual blindness, frequently results from lack of attention under such conditions.

The physician is guilty of criminal negligence who fails to take proper precautions against the possibility of blindness from the vicious infections of gonococci. Daily applications of a bland solution of protargol, five per cent, is a satisfactory preparation used by some physicians. Others find a twenty per cent solution of peroxide of hydrogen very valuable as a general disinfecting agent. But one-half of one per cent of nitrate of silver is recognized as being the most satisfactory safeguard against eye infection.

Be the eyes ever so slightly affected, they must be given scrupulous and unceasing care.

HOW TO WASH THE EYES

In treating the eyes, lay the baby on his side on the bed, placing a piece of absorbent cotton over the nose

HOW TO RAISE THE BABY

so that the boracic acid or other solution which is to be used may not run from one eye to the other. Always wash from the outer angle of the eye inward toward the tear duct.

Now separate the lids, opening the eye as far as possible, and drop in the solution with the aid of the eye-dropper, say two or three drops at each treatment, so that the fluid may suffuse the entire surface of the eye and run out on the absorbent cotton.

This is a delicate procedure and, remembering the sensitiveness of the eye, infinite care must be exercised in carrying it out.

If both eyes are affected, after the first has been treated, baby must be turned on his other side and the operation repeated. If only one eye is affected, every precaution should be taken that nothing that has been near it comes in contact with the other eye. Also, it is most important that baby, when put to sleep, shall lie on the *affected* side.

The absorbent cotton and linen scraps *should be burned after each treatment*. Constant care will soon effect a cure, and it is fortunately rare for the eyes to become infected or reinfected after early infancy.

If the lids should happen to stick together, rub a little vaseline into them each night. This will usually correct the trouble within a very short time.

Let me here urge that the mother carefully wash her own hands before attempting to care for baby's eyes.

In the case of any trouble with the eyes, it will of course be more than ever important that the directions previously given for protecting these organs from an excess of light should be carefully followed. The light

CARE OF BABY'S SPECIAL ORGANS

must be moderated and must come from behind the head of the bed, so as to prevent the rays from falling directly upon the child's face.

The same care must be used in regard to the rays of the electric bulb or gas jet as in the case of sunlight, for many hours of infantile restlessness have come from eyestrain caused by the glare from some form of artificial light. It might be well, also, if there is a nurse, to insist that she wear subdued colors, for the ordinary white uniform of the nurse reflects strongly upon the delicate retina of the child's eyes.

Also, extremes of color are to be avoided in the nursery. To be forced to stare at a white wall or ceiling is hardly less trying to the eyes of a young child than the omnipresence of the nurse's white uniform. The intermediary shades of blue and green are milder to the tender retina and are a good choice for these portions of baby's surroundings. Browns and greens are very soothing to the eyes and may enter largely into the furnishings of the room.

You should also remember never to hold any object near to the baby's eyes. The muscles and ligaments of the eyes readily respond to accommodation of vision. Yet the child has not learned to direct his vision at proper angles, and it is thus easy to make a child's eyes cross or diverge in their visionary range. Do not cause a child to concentrate his gaze upon any object; let the eyes wander as they normally will.

THE CARE OF THE NOSE

The nasal passages of a healthy baby will rarely require any unusual attention on the part of the mother.

HOW TO RAISE THE BABY

However, it is always well for the mother to assure herself that the little nostrils are clear, and in good functioning condition.

A small wisp of cotton rolled tightly and dipped in boric-acid solution may be inserted in each nostril and turned about a few times, especially in the morning after the baby's bath. It is better to avoid wooden applicators, such as toothpicks.

If there is any evidence of sores or crusts forming in the nostrils, the cotton may be dipped in a little vaseline, and the inner surfaces of the nostrils gently smeared with this unguent. This will afford a very great degree of relief to the child, and help prevent the formation of crusts of dry mucus which may act as a plug to the nostrils, and enforce a practice which may later develop into the confirmed habit of mouth breathing.

Sometimes baby's nose is more or less deformed—by the nostrils being too wide, or the end being tipped up, as in "snub nose," etc. In many cases much can be done by regular gentle manipulation of the nose by the mother or nurse, toward molding a beautiful nose. Care must be taken not to irritate the baby nor to give such pressure as to injure the delicate cartilaginous structures.

HYGIENE OF BABY'S MOUTH

If baby has the food which Nature has provided for him, there is rarely any necessity for especial care of the mouth. Yet it is a wise plan, for the first few days, or if he is ill, to wipe out the mouth with a piece of linen dipped in some boric-acid solution each time that he is nursed. This tends to keep the mouth sweet.

Many baby specialists prefer common salt (chloride of sodium) to borax or boracic acid as a mouth disinfectant, for the very sound reason that salt is one of the main elements of the normal secretions of the mouth. A teaspoonful of table salt to a large glass of water will prove a splendid mouth wash, with nothing but a benign action on the tissues and secretions of the mouth. Again, salt has no action on the fats of the milk, and does not promote curdling. In teething, it is very soothing to the gums.

Artificial food not infrequently disagrees with the child, and there is souring or regurgitating. Special directions will be given in a later chapter as to the preparation of such food, care of utensils used in this preparation, etc., and if these are closely followed, the dangers from its use will be reduced to a minimum. With the additional precaution of cleansing the mouth after each feeding, there is less chance of it becoming coated, and ultimately sore.

After the little teeth come in, these may be cleansed with non-absorbent cotton twisted around a firm toothpick or wooden applicator. This may be dipped in boracic-acid solution or, better, in salt solution. Regular polishers for the teeth can be secured in some localities and are better than brushes, though the latter may be used if the bristles are fairly soft.

A small amount of lemon juice on a cotton applicator is good to remove spots, stains, or tartar from the little teeth, but this should be used only at long intervals, and may be slightly diluted, as the acid is somewhat inclined to injure the delicate enamel of the newly formed teeth.

HOW TO RAISE THE BABY

DON'T LET BABY BE KISSED ON THE MOUTH

Mention may be made here of the unfortunate habit people have of kissing a baby on the mouth. It is a custom that should be strongly condemned. It is unsanitary, to say the least, and yet the poor, helpless baby has to submit, being unable to make any effectual protest.

Many cases of diphtheria and syphilis and possibly other diseases, have been communicated in this way—especially to infants in whom the resisting vitality was at a low ebb.

Try to put yourself in your baby's place, and ask yourself if you would permit every chance visitor, possibly with fetid breath, or rank with the odor of stale tobacco—to kiss you on the lips.

Kiss your baby on the cheek or forehead. And so far as strangers are concerned, don't let them kiss him at all.

If the lips become chapped ever so little from exposure to the sun or air, it is well to apply a little pure olive oil to them. Put this on while baby sleeps, as then the lips will readily soften. Olive oil should be found in every nursery, in preference to other emollients, for chafes, chaps, fissures, etc.

BABY'S EARS

The baby's ears are another part of its little body which calls for special mention. A certain amount of wax is required by Nature as a safeguard for these delicate organs, yet an excessive accumulation of it is highly injurious to them.

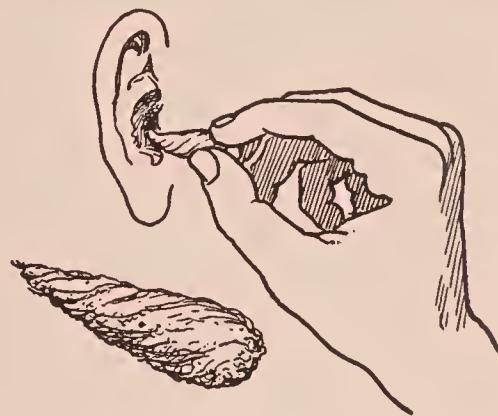
However, if proper care is taken of the ears from infancy, no trouble need be anticipated in this direction. I should advise the use of a piece of soft linen twisted in conical, corkscrew fashion, for the purpose of cleansing the ears. This is dipped in the warm suds of the bath, squeezed fairly free of water, gently inserted in the ear, and turned around a few times. Then use a dry cone of linen in like manner. You will thus keep the ears perfectly clean, without the slightest danger of doing any injury to them.

The outer ear can of course be cared for in the usual manner.

The area surrounding the ear is remarkably susceptible to eczema. More than four per cent of children under a year old suffer from eruptions about the external ears.

These conditions are frequently due to the alkalis in soaps; while, again, the particularly acrid and irritating character of the infant's sweat may be responsible. They are very stubborn and unless properly treated may spread all over the face. As a rule they defy all local treatment with salves and lotions.

The first thing to do, of course, is to remove the cause, in so far as is possible, and I have found ivory soap much less irritating than most other soaps—unless castile is chosen, and would recommend its use for children's baths. Dusting about the ears with powdered



Conical cleanser for ear, nose, or eye corners.

HOW TO RAISE THE BABY

chalk or stearate of zinc should be a part of the regular routine, as such cases often respond very readily to the mild alkalinity of these substances.

And notwithstanding the theories of most skin specialists, I strongly advocate long and frequent water applications. Two reasons are logically established for this treatment. First, by diluting the acid secretion we lessen its irritability; and second, the osmotic action of the water lessens the congestion and secretion.

In addition, for the good of the delicate auditory nerves and of the general nervous system, which may be affected through them, I should like to urge that all toys capable of producing hideous noises be forbidden in the nursery. For not only do they startle the youngster, but they affect the sensitive ear-drum so that it cannot be trained to recognize the rhythmic tones of the voice.

BE CAREFUL TO KEEP THE EARS FLAT

While laying baby on his stomach, as he should be laid, and placing one cheek against the pillow, care should be taken that the ear on this side is flat against the head, and not doubled over.

It is owing to carelessness in this respect that many a boy and girl in later life is distressed by two projecting and unsightly appendages, which are suggestive of the sails of a ship rather than a pair of ears.

It takes only a second or two for mother or nurse to assure herself that the ear on which the child is lying is in the right position, and the result will be well worth this small expenditure of time.

CARE OF BABY'S SPECIAL ORGANS

CARE OF THE NAILS

The little finger and toe nails of baby should be kept cut quite close; otherwise he may injure his eyes or skin with them, and this may even lead to infection, if the nails are not immaculately clean.

Before trimming the nails, which should be done with sharp scissors, the fingers and toes may be bathed a few minutes in warm water containing borax. This softens the nails and the dirt. Absorbent cotton may be twisted about a toothpick and dipped in clean boracic-acid solution to use in removing the dirt from beneath the nails.

Be very careful to avoid injuring the flesh beneath the nails, as such a wound is very painful and infection not infrequently develops in it. Keep the flesh freed from the nails at the sides by gentle pressure with cotton or soft cloth soaked in warm soap suds or boracic solution. This prevents the development of hangnails, which are painful and sometimes become infected.

CARE OF BABY'S SCALP

In a preceding chapter I have incidentally mentioned the washing of baby's head as part of his morning's ablutions. However, this sometimes requires special attention. A baby's scalp should be as free from blemish as his little cheeks, but unfortunately this is not always the case.

A yellowish deposit is sometimes seen on a baby's head, the cause generally being a want of sufficient care in removing the "*vernix caseosa*," of which I have already spoken, at the time of its birth. There may also

HOW TO RAISE THE BABY

develop a "milk crust," or large scales of dandruff fused together.

When either of these conditions exists the head should be liberally rubbed with oil. This should be permitted to remain on for four or five hours.

Next wash thoroughly with warm water in which you have dissolved a teaspoonful of powdered borax. It will then be found that the "scurf" has entirely disappeared.

Of course, if baby's head is washed daily with the same care as is any other part of the body, you need have no fear of a reappearance of any annoying and unpleasant accumulation.

However, if there is the slightest neglect, it will probably return, when the same process must be gone over again until it is completely removed.

Never, under any circumstances, attempt to remove the scurf with a comb, or to scrape it off in any way, as in doing so there is great danger of injuring the scalp, or even destroying the roots of the hair.

Remember also that I recommend the use of borax only for the removal of the deposit. For once baby's head is as clean as it should be, nothing but a little castile soap and plenty of warm water is required to keep it so.

USE OF BRUSH AND COMB

Mothers should be exceedingly careful in the selection and use of the brush and comb for baby's hair.

For the tender scalp is liable to irritation from bristles that are overly stiff, or a comb that is injudiciously used. It would be well to depend, to a very large extent,

CARE OF BABY'S SPECIAL ORGANS

upon the brush exclusively, for a while, for the arrangement of baby's hair.

A good way to test the stiffness of the bristles is for the mother to use the brush on her own face. This is also an excellent way of determining the degree of force to be used in brushing the baby's tender scalp.

If the comb is used at all, it should be in a very gentle manner. It is well to hold it so that it is as nearly flat as possible—parallel with the surface of the scalp. In other words, do not hold the comb at an angle that would be likely to let it "dig in," even in the event of the baby suddenly twisting or turning its head.

If mother wishes the hair to be curly, she can help to bring about the fulfillment of her wish by brushing it the "wrong" way.

CHAPTER VIII

Internal Cleansing

“If we have a time for everything,
And fit each in its place,
Lives won’t be overcrowded
And much worry we’ll efface.”

HAVING given the subject of external cleanliness its share of attention in Chapter IV, let us now turn to that of internal cleanliness, which is by far the more important of the two.

This cleansing process on Nature’s part is the first function to make itself manifest after the call for air and food. The initial discharge, known as the *meconium*, is normally of a tar-like color and consistency.

If baby is fed at regular intervals and not overfed, the necessary evacuations can be regulated from earliest infancy with almost the same precision as the call for nourishment. Watchfulness in this matter is speedily rewarded, and after a few months soiled napkins will be practically eliminated.

The best way to train the baby to have these evacuations regularly is to encourage a stool at about the same time each day. By the end of the fifth or sixth month this training should usually be begun.

Hold a small chamber between your knees. Then hold the baby on this, its back being carefully supported the while. Or hold him over his little “chair” for a few moments.

This should be done every morning and afternoon at a regular hour, and always after a feeding.

INTERNAL CLEANSING

At the beginning it may be necessary to insert a small cone of oiled paper in the anus, as an intimation to the baby of what you both are there for.

But after a few weeks the infant gets to know just what is wanted, and the habit will be established—to the mutual benefit of both baby and mother.

Any tendency toward constipation or over-relaxed bowels can be more easily regulated in the nursing child through the medium of the mother's diet than by any other means. We shall consider this important question somewhat at length in a later chapter.

The matter of urination is not so easily watched or controlled, but with care, after three or four months of "training," a wet baby, or a damp bed, should be the exception. Of course much depends upon the food of the mother as well as that of the baby.

CHARACTER OF BABY'S STOOLS

For the first two or three days the stools will be dark and soft. There may be three or four or more stools on each of these days, with an average of two or three daily for the first week or two.

After the first few days, if the baby is healthy and on a strict milk diet, the stools will be yellow and soft, also without lumps. There will be from one to two ounces at a movement.

The mother should observe the *character* of the stools more than the number which occur daily, as this is more important.

Dark brown or almost black stools may result when meat or meat-juices are given, also when iron and bismuth, or certain prepared foods, are administered;

HOW TO RAISE THE BABY



Training in regular habits commenced in early infancy does much to insure the baby's health and the mother's comfort.

sometimes, also, from blood, which indicates a more or less serious condition.

The dark stools are, as a rule, somewhat offensive, while the light ones are less apt to be so. Frothy, fermented stools are offensive, even if light-colored, and indicate indigestion.

INTERNAL CLEANSING

GIVE BABY PLENTY OF WATER TO DRINK

Babies are rarely given enough water to drink, the supposition being that with liquid food water is not necessary.

Now this is entirely wrong. Baby needs water in addition to milk.

Fluid is constantly thrown off through the skin, kidneys, lungs and bowels, so that water in abundance is essential.

It is, therefore, a good plan to give baby a drink at bathing time, again when he wakes from his nap in the morning, once more after his afternoon sleep, and again before he is tucked away for the night. If these drinking times are established, just as feeding hours are, they are not likely to be overlooked. He can be given water from a spoon, though a better plan is to give it to him from a baby's bottle. He can then take all he desires. This water can in some cases be *slightly* sweetened to advantage, preferably with sugar of milk or strained honey, though brown sugar may be used.

WHAT TO DO FOR CONSTIPATION

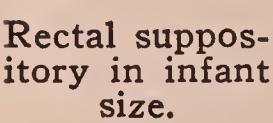
Even with care and watchfulness, baby may become constipated. Or he may possibly have an inherent tendency in that direction. In this case, do not, I beg you, dose him with purgatives, upsetting his stomach and entailing general suffering upon him. This method, from the first treatment, will aggravate his trouble.

The very best and usually the safest and most effective means for quick relief from constipation is to inject an ounce or two of water into the rectum with a baby syringe, obtainable at any drug store. Inject the water

HOW TO RAISE THE BABY

and lay the baby in his usual position. If results are not soon obtained, repeat the injection.

A very simple remedy for constipation is a tiny suppository of white castile soap, made by cutting a piece in a conical shape, not larger in circumference at its largest part than a lead-pencil. Laying the baby across your knee on his little belly, insert this suppository gently in the rectum.



Rectal suppos-
itory in infant
size.

Moisten the soap well before so doing, when it will slip gently past the sphincter muscle that guards the rectum. Then, after a few moments, peristalsis, or activity of the bowels, will be excited, and an evacuation will take place.

Occasionally it may be well to use a glycerine suppository, instead of the soap suppository. This has a more rapid and effective action, but the continued use of glycerine suppositories may produce an irritable condition of the lower bowel. Therefore they should be employed with discrimination.

Perhaps the safest of all suppositories for continued use are the gluten suppositories. One should be inserted the first thing in the morning, after baby's bath. Do not expect immediate action from these suppositories, as they usually require about two hours to take effect.

But, of course, the *natural* way to relieve obstinate constipation—no matter what other method may be employed as an adjunct or for temporary use—is diet.

Fruit juices are particularly beneficial—especially the juice of ripe oranges. The juice of half an orange may be fed with a teaspoon, or each six ounces of baby's drinking water may contain two or three tablespoonfuls

INTERNAL CLEANSING

of strained orange juice. This is one of the most valuable of all constipation remedies. Even more effective, in certain cases, is the pulp of raw scraped apples.

MASSAGE OF THE ABDOMEN IS HELPFUL

If there be a marked tendency toward constipation, it is usually well to knead baby's bowels for a few minutes daily just before he is bathed. This will frequently provoke a movement of the bowels. The abdomen should be stroked gently to begin with, gradually increasing the force of the pressure as the child becomes used to it.

Begin the massage movement proper in the left groin (the lower left corner of the abdomen), and work upward to the ribs, across the abdomen, and down on the right side to the right groin. The massage movement is a series of small circles, each completed without lifting the hand from the skin or even



This baby rectal syringe is an invaluable nursery adjunct and aid in combating acute ailments of children. It may be procured at any drug store.

allowing the hand to slide over the skin; the skin slides over the organs and structures beneath. Pressure is slightly increased in that phase of each circle when the direction is toward the outlet.

After a few circuits of the abdomen in this manner, the reverse motion may be used a few times; that is, be-

HOW TO RAISE THE BABY

ginning at the right groin, ascend to the ribs, follow along the horizontal part of the intestines, then down to the left groin.

This method is very effective if used for five or six minutes, two or three times a day, at regular times. Any time may be chosen except right after baby has been fed. In this case the kneading is likely to induce vomiting, and perhaps considerable pain.

Should the bowels prove obstinate, a small quantity of warm olive oil may be injected into the rectum by means of the baby syringe, previously referred to.

As baby gets older, should the trouble persist in spite of diet and exercise, an injection of warm water in which a little soap has been dissolved is worth trying at times for a change; but this will hardly be necessary if proper care is taken of the mother's diet or of baby's food.

Of course, daily exercise and kneading of the abdomen must be kept up in addition. In any event the early establishment of regular habits is of infinite value.

CHAPTER IX

General Hygiene of Babyhood

“Soft as sinews of the new-born babe.”

ABABY, during the first few weeks of life, should have two or three movements of the bowels every day.

After it is a month or more old, it may have only one or two free movements a day, although it often has three or more. It may urinate as often as once every hour or so.

Therefore it is easy to see that a plentiful supply of diapers should be provided, and these should invariably be washed before reusing.

Otherwise “diaper rash,” resulting from the irritation of the toxic excretions, will be an almost inevitable result.

CARE OF THE GENITALS

The most scrupulous care should be observed—from the very first—to secure cleanliness of and about the genitals. For thousands of cases of incontinence of urine, masturbation, fits, epilepsy and other serious nervous and physical disorders may originate in irritating smegma retained under the foreskin of a male child, or under the hooded clitoris of a little baby girl.

After birth, if the child be a male, and not of orthodox Jewish parentage, expose fully the head of the penis, stripping it until the glands at the base are exposed. In the vast majority of cases this can be done

HOW TO RAISE THE BABY

without incision. However, a slight tear of the foreskin is of no significance, if the parts are kept scrupulously clean.

Sometimes the foreskin cannot be drawn forward again after being brought back over the glans (head of the penis)—a condition called paraphimosis. Try pressing the glans with the thumbs, and drawing forward the foreskin (after oiling the parts well) with the first and second fingers of both hands. Or the penis may be wrapped in lint and gently squeezed in the hand until the swelling disappears. Cold applications may help. Sometimes the band that constricts will need to be divided.

The glands beneath the base of the foreskin secrete an odorous offensive secretion that may cause incontinence of urine, irritability and even convulsions. It is not necessary to remove the foreskin, but it is very necessary that this secretion be cleaned away occasionally, so that the parts may not be irritated.

If the clitoris is hooded (bound down by adherent tissue), it is necessary, if your little girl is to grow up strong and healthy, that the condition be corrected.

The genitals of a female child should be cleansed with absorbent cotton and warm water, in which a little boracic acid has been dissolved.

This should be done at least once or twice a day, in order to prevent the infection that often results from soiled napkins.

If there is any discharge, the boracic-acid washes should be used two or more times a day, until the condition is thoroughly cleared up.

GENERAL HYGIENE OF BABYHOOD

MASTURBATION AND ITS PREVENTION

One very frequent result of genital irritation is the habit of masturbation. This consists in producing friction upon the genital organs with the hands or clothing, by rubbing against the bed, or rubbing the thighs together. Older children often sit on the floor, cross their legs tightly, and rock back and forth.

Many mothers fail to properly interpret this action, regarding it simply as a "queer trick."

Children may form the habit at any time from one to six or seven years.

Many a chronic nervous condition, said often to develop into insanity, has had its origin in masturbation in childhood.

So watch your child very carefully when he is going to sleep, or when he wakes. If you notice any "queer actions," check them at once, and impress upon the child the fact that you are decidedly opposed to the continuance of the performance.

URINATION IN HEALTHY CHILDREN

The urine of a healthy young baby is almost water-like in its appearance and in its specific gravity, containing, as it does, a very small amount of solids.

For the first twenty-four hours, as a rule, no urine is passed. This need occasion no anxiety, unless the baby seems distressed.

Just how frequently the urine is voided by the young child is a very difficult matter to state. It varies greatly with different children and depends somewhat upon the temperature of the air, the amount and nature of

HOW TO RAISE THE BABY



The square diaper fits like panties and does away with the bulkiness which may encourage a tendency to bow-legs. At other times the bladder may empty its contents every hour or so.

As the child grows older, and control of the bladder is established to a somewhat greater extent, the frequency of urination decreases to half a dozen times a day or thereabouts.

The amount of urine varies with the age of the child and with its weight, as well as with the condition of nutrition and of the weather—for the greater the amount of perspiration (regulated by climatic conditions), the less fluid passes through the kidneys and bladder. The amount passed should approximate somewhat as follows:

nourishment taken, and the degree of individual nervous excitability.

The average number of evacuations is probably from six to ten a day. At times, however, there may not be a discharge of urine for from eight to ten hours, and still the child may remain in perfect health, while at

GENERAL HYGIENE OF BABYHOOD

From birth to two years, 8 to 12 ounces daily.
From the second to the fifth year, from 15 to 25
ounces daily.
From the fifth to the tenth year, from 22 to 33
ounces daily.
From the tenth to the fifteenth year, from 33 to 40
ounces daily.
And in adult life, 52 ounces daily.

DIAPERS AND PROPER DIAPERING

Diapers should be supplied in sufficient numbers to insure a continual supply of fresh ones, for as soon as a napkin is soiled it should be removed, the baby's body cleansed, and a clean diaper adjusted.

When the napkin is removed, the hips and the anal and genital regions should be gently bathed with a soft cloth and warm water containing boracic acid, and then dried with a soft cloth. If small triangular pieces of soft cloth, or diapers of cheese-cloth, are placed under



Adjusting a diaper square style instead of the old three-corner way. The pinning is done outside the baby's legs instead of between them.

HOW TO RAISE THE BABY

the regular diapers, these will save the latter to a considerable extent, as well as the outer clothing.

As stated earlier, the use of diapers of too heavy a material will have a tendency to make baby bow-legged, because of the heavy roll between its legs. So make these articles from fairly light-weight material.

If safety-pins are used in adjusting the diapers, one may be enough. After the ends have been brought together about the body, they may be temporarily pinned. The other angle is then brought up between the legs, smoothly adjusted, and pinned to the waist part, after removing the first pin. Or the first pin may be left in. Some advise a pin above each knee, in order to save the outer garments from soiling. But this has a tendency to interfere with the child's movements.

Perhaps the best means of securing the diapers is an extremely thin button or two, covered with linen, with buttonholes to match.

Soiled diapers should receive a temporary wash immediately upon their removal, then they should soak until the final wash, which should be in hot suds. They should then be boiled several minutes and *thoroughly* rinsed, without blueing. It goes without saying that no starch should be used. They should be thoroughly dried in the sun, and before they are brought into contact with the baby's tender flesh they should be warmed.

WATERPROOF DIAPERS

Waterproof diapers are a great help to baby's mother for a short emergency, as for instance, a ride in a street-car or a little shopping tour of half an hour

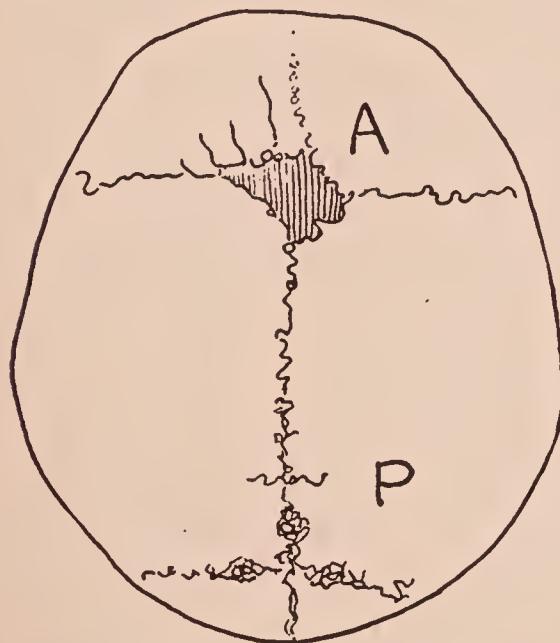
GENERAL HYGIENE OF BABYHOOD

or more. But they should not fit so snugly as to completely exclude the air.

THE FONTANELLES

The bones of a healthy baby's head, as every one knows, do not form a solid skull at the time of birth. Instead, they are separated, sometimes to an extent that would enable one to put the tip of the little finger down between the "sutures," as they are called.

The contour of the baby's head, when looked at from above, should be round or oval. Just behind the forehead is one area, and slightly back of this is another, in which no bone is present. Only a thin membrane and the scalp itself cover the brain, which can be seen to pulsate through these membranes. These soft spots are called, respectively, the anterior and posterior fontanelles.



Anterior and Posterior Fon-
tanelles.

The one just back of the forehead (the anterior fontanelle) is the larger of the two, and is the only one which needs occasional attention on the part of the mother. It is somewhat irregularly diamond-shaped, and its diameter immediately after birth is, normally, from one-half to one inch, or perhaps even more.

In normal infants, it should not be greatly depressed,

HOW TO RAISE THE BABY

nor should it bulge; either of these conditions might signify some abnormal state of the brain itself, due either to lack of development, or to congestion, or to the presence of a small amount of watery fluid, as in a mild type of hydrocephalus. Depression may indicate diarrhea, or lack of sufficient nourishment.

These sutures should ordinarily be completely closed by the end of the eighteenth month. Sometimes they close as early as the fourteenth month. But they should never be open after the lapse of two years. If they fail to close by this time, it may be due to a deficiency of bone-forming elements in the diet—as in rickets and similar conditions.

During the first two years of the baby's life care must be taken that no pressure is exerted on or over the fontanelles, as by bonnets, or folds in pillows, or by the hands in holding the child. Such pressure might cause serious brain trouble.

HOW TO HOLD THE BABY

When taken up, the baby should always be supported both as to his spine and his head. The mother or the nurse should never permit either the back or the head to be without the support of her hand or arm, at least until after the fourth month. After this time the baby can usually hold up its head unaided, provided the body is supported in a sitting position.

It is easy enough to support the main weight and bulk of the baby's body on the open palm and extended fingers of one hand, while adjusting the forearm of the same arm to support the little head. The other hand may be employed in supporting the feet.

GENERAL HYGIENE OF BABYHOOD

In holding the little one while one is sitting, it is usually better to let him lie face downward across the lap, but without allowing his back to sway downward. But he may lie on his back some of the time, if care is taken not to leave his head unsupported.

When being dressed the baby should, until old enough to sit up alone, lie on the lap, and the clothing should be drawn up over the feet, instead of being slipped over the head.

It is a good plan to have the apron or skirt of mother or nurse drawn fairly tight across the knees, so as to leave no large open space between the thighs into which the little body will sag.

Some mothers are constantly taking their babies up in their arms, holding the little heads against their shoulders or cheeks. If the mother "*just must*" feel the velvet skin of her baby, or the little body in her arms, let her gratify her instinct by bending over the child while he is on her knees, or better, in his crib, rather than by lifting him into the upright position. Babies don't need to be cuddled, and should not be; and it is best to keep them from the upright position as much as possible.

For the first three months of the baby's life he should never be lifted except by both hands beneath the body, just about in the manner described for supporting him in the arms. Some time after this age he may be lifted by placing the thumbs across the chest, the palms in the armpits, and the fingers well around to the back, giving equal pressure at all points.

If he is lying face downward, he may be lifted by the same method (reversing the location of thumbs and fin-



Improper way of holding young baby. Never let head and spine sag.



Proper way to support head and body of a young baby.

How to RAISE THE BABY

gers, of course), or he may be turned over on his back before being lifted.

For the first several months there should not be much traction upon the shoulders, but if the child is very rugged, he may, after three months or more, be grasped carefully by the arms in lifting.

THE FALLACY OF VACCINATION

There is one grievous mistake that hundreds of thousands of mothers in this country are making every year, and that is to have their babies and small children vaccinated, with the idea that through some mysterious force, the little ones will be protected from smallpox.

Compulsory vaccination is one of the blackest outrages that has ever been perpetrated upon a gullible public by a self-deceived medical profession. For statistics and the experience of many of the greatest scientists have established, beyond the shadow of a doubt, that vaccination has nothing whatever to do with the suppression of smallpox, and that certain countries in which it is universally practiced—as in Japan and in the Philippines—lose thousands upon thousands of their population every year by this disease.

Smallpox is a filth disease. Improved sanitation is stamping it out in every civilized country in the world. And soon it will be quite as unknown among us as are the plague, cholera, typhus and elephantiasis.

One sure way to build up the vital resistance and overcome the tendency to contract smallpox, or any other contagious or infectious disease, is to train the child to have regular daily movements of the bowels,

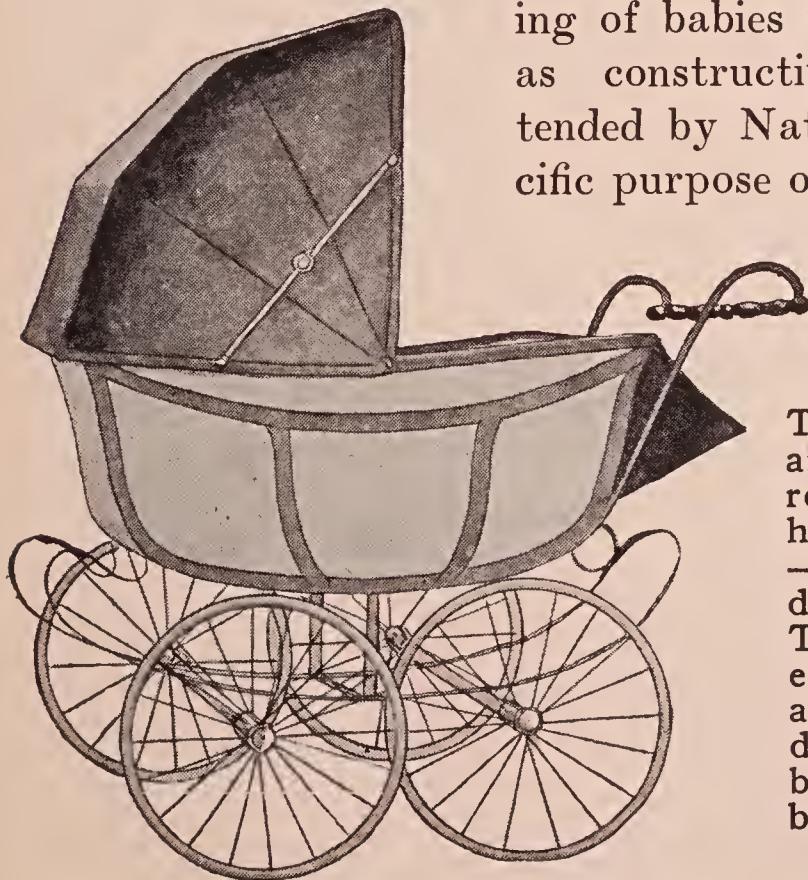
GENERAL HYGIENE OF BABYHOOD

and to be sure that his diet is well balanced, adequate, but *not over-abundant*.

WHY BABIES CRY

A baby's cry is full of significance. The first cry after birth is considered a very important event, and is listened for anxiously as a sign that all is well. Later on it is too often treated as a thing of no consequence. Yet it is just as important then as it is at the beginning. The first cry announces that the child has arrived safely, and his subsequent well-being depends to a large extent on the same cry, which is his only means of making his wants known. It should never be regarded as a thing of no importance, and should always be responded to at once.

Within certain limits the crying of babies may be regarded as constructive exercise, intended by Nature for the specific purpose of developing lung



The carriage or perambulator — baby's resting place during his daily excursions — is obtainable in different designs. The primary consideration is that the arrangement of bedding and hood shall be such as to keep baby perfectly comfortable.

HOW TO RAISE THE BABY



Type of go-cart or stroller for the young child.

teristic of the exciting cause, and it is, therefore, important that the mother should be able to interpret these signals.

A sudden scream is usually associated with a sharp cramp, and may be due to colic, or to some stomach or abdominal distress. The cry of colic, however, is usually begun by a series of rapid breaths like forced coughing, ending in the sudden scream. Because of the intensity of this cry, and its suddenness, it may cause rupture.

Paroxysmal crying, acute in its nature, and then abruptly ceasing for a time, is usually due to colic. If the belly is distended and the belly wall rigid, and if the limbs are drawn up spasmodically in the manner characteristic of abdominal distress in infants, one may assume that this is the cause. *Crying during the move-*

capacity. Within reasonable limits it is an indication of health and vitality.

Healthy children, however, do not cry for any protracted period unless there is some definite exciting cause, such as the irritation of a soiled diaper.

When the cry of a child is abnormal, it is usually charac-

GENERAL HYGIENE OF BABYHOOD

ments of the bowels shows, naturally, that the child is suffering pain at this time, and the symptom calls for investigation. There may be severe constipation, or an inflammation in the bowels or rectum.

The low moan usually indicates a developing infection, associated with more or less weakness and a progressing debility. If the temperature is low and the fontanelles sunken in, one is justified in making this diagnosis. In these conditions the baby may not have strength even for a feeble moan. It may often twist its face into position for crying, and yet *no sound* may issue from its lips. This latter form of cry is also noticed in many conditions of inflammation involving the vocal organs, although sometimes in these cases the cry may be of a hoarse or croupy nature.

The puny and peevish cry is usually due to the irritation of tooth-cutting, although it may be a manifestation of some form of nervousness, which could possibly be more correctly ascribed to toxic infection.

The restless, angry cry is most frequently caused by hunger or thirst. This cry is usually not quieted until the exciting cause is removed. The cry of anger is usually accompanied by twisting about, kicking of the feet and various other manifestations.

No cry is quite so unappeasable as *that caused by earache*. Accompanying this cry is the restless tossing of the head from side to side, and other symptoms pointing directly to pain. The eyes are usually closed, and the face takes on an expression of terrible anguish. Touching of the head in the region of the ear brings forth a fresh or louder outburst, as does swallowing by the baby. Sharp pain in the joints brings out the same

HOW TO RAISE THE BABY

cry, and movement of affected joints excites more crying.

Persistent crying may often be due to such causes as, for instance, the pricking of a pin, or the improper binding of the band, producing a wrinkle in the flannel, which, after long pressure, becomes a decided cause of irritation.

In disease caused by difficulty in securing sufficient air, the cry is necessarily *very short and weak* in character, for the simple reason that the respiratory passages being affected by the inflammatory process, the child is not able to secure the amount of air necessary to produce a full cry.

In laryngitis the cry is *hoarse*, and usually intermittent.

If the tonsils are inflamed, or if there are adenoids, the child may make repeated attempts to nurse, but give up each time with a *cry of disappointment*.

Children of from two to six years who *awake at night screaming* violently are probably suffering from nightmares, or distressing dreams. They should be reassured, probably given a drink, and sent to sleep again. The affair should not be recalled to the attention the next morning. And observe the diet or time of the last meal of the day to avoid the trouble in the future.

If the baby is crying, but stops immediately when he gets what he wants, to begin again as soon as the thing is taken from him, the mother can be assured that the baby has begun to develop a *habit* that will annoy her much in days to come if she yields to it—the cry of the pampered, spoiled baby.

Before leaving this subject it may be interesting to

GENERAL HYGIENE OF BABYHOOD

note the rather curious fact that the young infant sheds no tears, no matter how violently it may cry. The function of the lachrymal glands is not established until somewhat later in life.

PROTECT YOUR CHILD FROM EXTREMES OF TEMPERATURE

The tolerance of newly born children to extremes of cold and heat is very slight. Their proneness to congestive pneumonias and bronchial affections proves this fact.

The exposure of young children to extreme cold is dangerous, unless great care is taken to keep them warm. If this can be done, however, they can take their airings, and even sleep in the open winter air not only without harm but with benefit. A



Baby Bunting. A warm and comfy garment for outdoors and cold weather.

HOW TO RAISE THE BABY

source of great comfort to the baby in cold weather, whether he is taking his airing, or sleeping in a cool room, is a hot-water bottle tucked in alongside of him.

While fresh air is indispensable, care should be taken that all the air currents are indirect and do not develop into drafts.

Extreme heat must be guarded against with the same vigilance as extreme cold. In hot spells marked benefit is obtained from the long, cool bath, or cool, wet pack. Never give the cold plunge, for under the influence of the cold, the blood is driven from the skin to the internal parts and a chill will probably result; whereas the cool bath or pack, if prolonged till Nature reacts, drives the blood to the skin to overcome the temporary chilling effect.

PETS A DANGER TO INFANTS

Dogs and cats should be excluded from the nursery, not only because of the possibility of their carrying disease, but also because the odor of animals often has a decidedly depressive effect upon young children. Physicians say that marked anemia has resulted from the loss of appetite and general lowering of resistance due to nothing more than a "ratty" odor about the house. This seems doubtful, but the very young are peculiarly susceptible to depressing influences.

Disease germs are usually present in dust. We should therefore avoid dust-carrying pets just as we avoid dust-catching furniture, etc., and choose a hard-wood floor that can be scrubbed instead of the less sanitary Turkish rug.

Scrupulous care should also be taken to exclude all insects from rooms occupied by children, whether they

GENERAL HYGIENE OF BABYHOOD

are of a parasitic nature or not. Some physicians claim that a child can be deprived of fair chances of health by the bite of a mosquito bearing malarial germs. This is doubtless an exaggeration, but this blood-depleting disease is so well worth avoiding that we should take no chances with the mosquito. Bedbugs are also capable of carrying the germs of disease, it is claimed.

Insects that are guiltless of carrying disease germs are to be guarded against for another reason. They may get into the ears and nose of a small child and cause great suffering and fright—even hysteria and convulsions.

THE TRIBUTE EXACTED BY IGNORANCE

The mortality record previous to puberty would, in this country, probably range from 12 per cent to 40 per cent, depending entirely upon the communities in which the statistics had been collected. Perhaps 90 per cent to 95 per cent of these deaths are avoidable.

We are killing many times more babies and children yearly in this country than the number of lives lost in the U. S. Army during the recent war. Billions of dollars were expended to sustain and save life in this war. How much are we spending to save the lives of these little ones? Every parent is responsible for the lives of the children in his care. Has he or she the necessary knowledge to assume this responsibility? Has he or she made any attempt to acquire this knowledge? If not, then to what extent is his or her ignorance to be condemned as criminal?

This is a serious thought, on a tremendously vital matter. I leave it to your own heart and mind as to how you will answer it.

CHAPTER X

The Crime of Soothing Syrups

“And be these drugging fiends no more believed
That keep the word of promise to our ear,
And break it to our hope!”

THREE is little or no excuse for the death of a baby. A child with sufficient vitality to survive the ordeal of birth should possess enough vigor to go on to maturity.

Yet during the War it was estimated that the life of a soldier in the trenches was safer than that of a baby in its cradle. The little creatures fall victims by the thousands to the ignorance and sometimes the criminal neglect of mothers, the incompetence of physicians, and the general indifference and neglect of a social body which cares more, apparently, for safeguarding the health of baby pigs and cows than for the welfare of human infants.

Of all the crimes that are committed against baby-hood one of the most flagrant is the drugging of the little ones by means of the various hell-broths known as “teas,” “soothing syrups” and the like.

The most charitable thing that can be said of a woman who will pour one of these decoctions down the throat of her helpless infant is that she is sinning through ignorance. None the less is she committing a terrible crime, and none the less will Nature exact the penalty of her wrong-doing, possibly from herself, but certainly, alas! from her tiny victim.

SUMMARY TABLE OF T

NAME	PERIOD OF INCUBATION	STAGE OF INVASION	TIME OF APPEARANCE OF ERUPTION	CHARACTER OF ERUPTION	DURATION OF ERUPTION	LOCATION	DESQUAMATION
Cerebro-spinal meningitis	Unknown	Sudden	Second to fourth day	"Cold sores" on lips; small hemorrhages in skin; dusky redness.		"Cold sores" on lips; other spots over entire body	
Chicken-pox	3 to 14 days	Sudden	First day	Vesicles appearing in crops	5 to 8 days	Back, chest, arms	Crusts 5 to 8 days
Erysipelas	Few hours to 4 days	1 to 3 days	During first day	Shiny, bright red; well-defined elevated edges	4 to 8 days	Face	Branny or large flakes
German measles	8 to 16 days	1 to 2 days	Before end of second day	Small, round, isolated, rose-red spots	3 days	Face and scalp first, then down over body	Small branny
Measles	9 to 12 days	4 days	Fourth day	Small red pimples, borders crescent-shaped; fully formed in 24 hours	4 to 5 days	Face first, then down over body	Branny in 8 to 11 days
Scarlet fever	1 to 21 days	1 to 2 days	Before end of first day	Diffuse, scarlet, punctate	7 to 10 days	Neck, chest, face, then down over body	Scales or flakes in one weak
Smallpox	7 to 14 days	24 to 48 hours	Second to fourth day	Pus pimples with depressed tops	21 to 25 days	Face and over body	Crusts 12 to 2 days
Typhoid fever	5 to 31 days	6th to 8th day	Seventh or eighth day	Rose-colored, lens-shaped spots, appearing in crops	Each crop lasts 3 to 5 days, and they appear throughout the fever, 10-20 days	Abdomen, chest and back	None, or small branny
Vaccinia (Vaccination)	1 to 2 days		Third or fourth day after vaccination	A red papule that becomes a blister, then a pustule. It is surrounded by a broad red area	10 to 12 days until scab begins to dry; scab should disappear by 21st	At point of vaccination	Scab

E ERUPTIVE FEVERS

DURATION OF DISEASE	CONVALESCENCE	FORE-WARNING SYMPTOMS (PRODRAMES)	MAIN SYMPTOMS IN TYPICAL CASES	COMPLICATIONS AND SEQUELS	QUARANTINE LASTS, FROM ONSET
Variable; many after-results	Lysis (slowly)	Loss of appetite, malaise, pain in neck, head and down spine, slight fever, chill and convulsions	Delirium, stupor, paralysis of eye muscles, bending of back, rigidity and spasms of extremities	Pneumonia, endocarditis, paralysis, deafness, arthritis, mental impairment	Not quarantined
2 weeks	Lysis	No prodromes	Mild weakness and general symptoms	Rare	2 to 3 weeks
1 to 3 weeks	Crisis (sudden end to disease)	Chills, malaise, headache, slight fever	Sharply defined, elevated redness on bridge of nose and cheeks, "butterfly"-shaped blister formation.	Abscesses and gangrene (rarely)	Not quarantined
4 to 7 weeks	Crisis	Slight chills, severe backache, headache and malaise	Inflammation of mucous membrane of mouth, nose, fauces, conjunctiva; enlargement of glands of the neck	None or rare	2 weeks
2 weeks	Crisis	Running nose, tears, pain in eyes in light, sleepiness, irritability, cough	Fever 100 to 104, crescentic patches on red base, Koplik spots on inner surface of cheeks and lips	Bronchopneumonia, laryngitis, tuberculosis, inflammation of bowels.	3 weeks
2 to 3 weeks	Lysis	Sudden vomiting, biliousness, headache and sore throat	Same, plus loss of appetite, prostration, delirium, convulsions, "strawberry tongue," sleepiness, restlessness, diarrhea, albumen in urine, constipation.	Nephritis, ulceration of pharynx, pus in middle ear, cervical adenitis, heart affections, chorea, ophthalmia, joint affections	6 weeks
4 to 5 weeks	Lysis	Chill, intense headaches, lumbar pains, nausea and vomiting	Fever 103-104, falls and rises	Bronchopneumonia, laryngitis, pleurisy, iritis and other eye troubles	4 to 8 weeks
3 to 4 weeks	Lysis	Headaches, lassitude, chilliness, backache, constipation, nosebleed, nausea	Stupor, delirium, abdominal disturbances and nervous symptoms	Perforation of intestines, pneumonia, bed sores, heart and kidney affections	For duration of disease
About 3 weeks	Lysis		Other symptoms are a fever and malaise	May be serious infection of arm and of entire blood stream	None

THE CRIME OF SOOTHING SYRUPS

THE CARELESS MOTHER

But not even the questionable excuse of ignorance can be pleaded in the case of thousands of women who disgrace the name of mother. These women, lacking the love, patience, and wisdom of the true parent, will "quiet" baby at any cost.

The peevishness of the child may be the outcome of uncomfortable clothing, improper food, underfeeding or overfeeding, want of exercise, need of fresh air and sunshine, or neglect in general. But to such conditions the mother of the type in question gives little or no thought.

Usually of the fairly well-educated middle class, she lives for the bargain counter, the matinee and the "movie" theatre. Her home is incidental to, rather than the pivotal point in, her life. And her shallowness and selfishness prompt her to dislike its duties and detest its encumbrances, including the "squalling brat."

So when the wail of the unhappy child annoys her, she does not seek to remove the cause of its unhappiness. Instead there is a visit to the cupboard, the production of a bottle, the prying open of a small, feverish mouth, and the baby sinks into an uneasy, drug-induced slumber. There are even mothers who do this with a clear consciousness of the fact that they are "doping" their children.

BECAUSE GRANDMOTHER USED TO DO IT

There is a third species of drug-administering mother who will reply to your remonstrances by asserting that "mother always used that 'tea' for her babies," or "grandmother raised all her children" on some other ungodly brew. In such instances you will invariably

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find that the family so “raised” can, as the doctors say, demonstrate a variety of nervous diseases, chronic dyspepsia, crankiness and other tokens of unbalanced organisms.

All this is lost on the thoughtless mother, however, whose undeveloped brain only permits her to do that which her predecessors did. Which is also the way of sheep, you will remember. These drug-administering mothers are numbered by thousands.

Dr. Wilbur Hale, who for a long period was the head of one of London’s famous hospitals for children, and who had an international reputation as an expert on infant maladies, was once asked to state the dominant impression that he had received from his years of practice. His reply was:

“The everlasting stupidity of the average mother.”

This was a severe and perhaps too sweeping generalization, but it must be remembered that Dr. Hale was constantly in touch with the tiny victims of parental blunders or worse.

EITHER STUPID OR WICKED

Still, it goes without saying that the mother who will tamper with the exquisitely delicate and fragile machinery of her baby’s system by clogging it with narcotic poisons of any kind is crassly stupid, if indeed she be not fiendishly wicked.

Every year millions of bottles of the stuff that is supposed to bring about “natural refreshing sleep” are sold, and thus the bodies and brains of more than a million of babies are irretrievably injured.

It is a deliberate lie to say that “natural, refreshing

THE CRIME OF SOOTHING SYRUPS

sleep" can ever be brought about by a narcotic, for no drug ever did or ever can achieve this result.

The active element in most syrups is laudanum, a form of opium, the flavor being disguised by essences scarcely less harmful, and the whole "digested" in a heavy sugar solution. Pleasant stuff truly to put into a baby's stomach—an organ that is intended to receive, and adjusted to digest, but one thing—its mother's milk.

Some years ago, a wholesale and systematized series of child murders was unearthed in Paris. For a consideration of a few francs an unwelcome baby could be sent to a *maison des enfants* kept by a couple of old women. In due season the child would die. When the police raided the place, some cases of "soothing syrup" were among the things seized. One of the hags who confessed said that it was administered to the little victims because it was safe, sure, and could be bought anywhere!

Paregoric is another opium-laden drug that is very dangerous indeed. In this connection it is proper to call attention to the fact that many a woman who lifts up eyes and hands in righteous horror at tales of Chinese opium dens and their degraded inmates will, nevertheless, administer opium to her baby, for paregoric is opium. And there is ample medical testimony to prove that a large proportion of the "dope" fiends of our own race are what they are because of the love of the drug implanted in them in infancy by their mothers. Can anything be more terrible than this?

Well might some of our babies lisp, "From such mothers, good Lord, deliver us!"

CHAPTER XI

Nursing the Baby

It's when the birds go piping
And the daylight slowly breaks,
That clamoring for his dinner, our
Precious Baby wakes;
Then it's sleep no more for Baby, and
It's sleep no more for me,
For when he wants his dinner, why,
It's dinner it must be.

—Eugene Field.

IT is a fact much to be deplored that there are mothers who refuse to suckle their offspring, even when capable of doing so. One cannot but feel that there is something radically wrong with women of this type; for it is only when fed from the fount which Nature supplies that a baby receives the nourishment suited to each and all of his needs.

In order to safeguard the infant's natural and best food supply, the care of the mother's breasts must be commenced at an early period of pregnancy. Upon this care may depend the possibility of nursing the child.

All pressure of clothing upon the breasts, should, of course, be avoided, so as to permit them the fullest opportunity to expand properly. They should, however, be warmly covered, and if increasing size should render their weight uncomfortable, they may be supported by a brassiere.

Scrupulous attention should be given to the nipples, in order that they may develop into such shape that the

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child can readily grasp them, and also to make them firm and secure against the development of painful cracks or fissures, which might necessitate an early weaning of the child.

Occasionally there is a tendency to form scales on the nipples. These should be washed away frequently, if they show any disposition to adhere.

When the nipples are flat, one can assist their development by massaging them daily, and by gently pulling them out from the breast with the fingers.

Many authorities recommend a breast-pump for accomplishing this end, but such instruments are likely to be too powerful, and may cause injury. I have received innumerable reports of such a result.

Massage with the finger tips and traction with the finger and thumb, can always be regulated, whereas the force applied through a breast-pump is not likely to be so correctly gauged. If the pump is employed no treatment should ever be undertaken until the last month of pregnancy; otherwise a miscarriage is likely to be produced, owing to the excitement of uterine contractions by the irritation of the nipple.

An adequate nipple-protector, worn during the day, contributes to the proper development of these parts, and is also a safeguard against irritation. Such a shield should also be worn during the nursing period. Many forms of shields are used for the purpose, and may be procured from any druggist.

In spite of all the efforts of the mother to fit her nipples for nursing, however, their shape may be such that the baby can obtain no satisfactory hold upon

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them. In this event, it will be found necessary to use an artificial nipple. There are many varieties of these nipples, one of the best consisting of a glass base, upon which is fitted a detachable rubber teat.

This nipple should be very carefully boiled and cleaned after every feeding, so as to free it from possible danger of contamination.

A device of this nature may frequently prove satisfactory, and its use should be attempted before bottle feeding is resorted to, if it is evident that the breasts are secreting milk. Very frequently, however, badly developed nipples may make nursing impossible.

TO PREVENT SORENESS OF THE NIPPLES

In order to keep the nipples in the best possible condition, regular times for nursing should be observed. Afterward the nipples should be thoroughly dried with a soft cloth, and then, for the first week or two, anointed gently with a little olive oil.

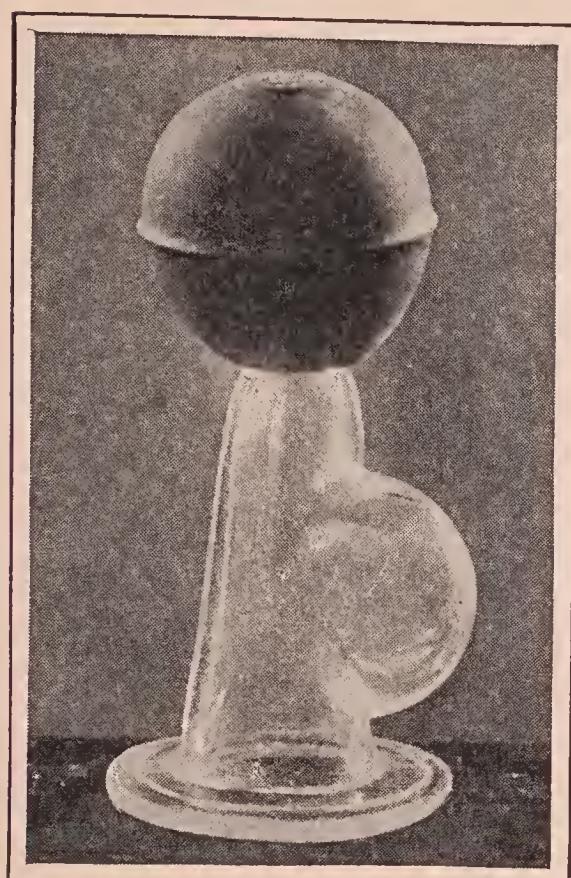
If previous experience shows a tendency of the breasts to become fissured and sore during nursing, the mother may bathe the nipples in tepid salt water daily during the last month of pregnancy. Equal parts of glycerite of tannic acid and water also makes a safe preparation to use for this purpose.

CAKED BREAST

Not infrequently the supply of milk is so excessive that the glands cannot contain it all. In this event, the accumulation of milk tends to cause a distension of the breast, with hardening of the retained milk, forming what is known as "caked breast," or "milk cake."

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This should be relieved immediately; otherwise there is danger of the breaking down of this material, and the formation of an abscess in the breast.



Breast Pump.

To prevent or relieve this caking, it is necessary that the breast should be gently rubbed for several minutes at a time, three or four times daily, with warm olive oil. Commence at the base of the breast and gradually work in toward the nipple, with light pressure.

Occasionally, the application of the breast-pump, to supplement the suckling of the child, might be advisable. Or the mother might donate this extra supply of milk

to the child of some mother in the neighborhood whose supply is inadequate.

HOW NATURE REGULATES BABY'S MILK SUPPLY

If the mother has an abundance of milk, one breast is usually sufficient for one nursing. This the baby usually empties in ten or fifteen minutes, after which it falls asleep and should be placed in its crib. The other breast may be reserved for the next nursing.

The average healthy mother secretes during the first weeks of the baby's life approximately one pint of milk

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within twenty-four hours. This amount is subsequently increased as the nutritional needs of the child become greater. At first, as a general rule, the mother has more milk than the baby can digest.

But Nature provides against the dangers of overfeeding, in this event, by simply causing the stomach to regurgitate, or vomit, the oversupply, which is ejected with little or no difficulty. This regurgitation is not true vomiting, such as is seen in older children. It is a simple regurgitation without "sickness of the stomach," and need occasion no anxiety, provided that the milk ejected has no sour smell, and the baby's health seems otherwise good.

However, the trouble should not be permitted to go uncorrected. Provision should be made for shortening the period of nursing, and for removing the baby from the breast before he gets too much.

The growth of the child is an index to its nutritional progress. If the baby is growing at the proper rate, we can be sure that it is getting sufficient nutriment. If the contrary, it will be well to seek the cause of the trouble by an examination of the quality of the mother's milk as regards its total quantity of fat, and other nutrient material.

The table devised by Dr. Holt, containing an approximate analysis of breast milk, is accepted as an average indication of the nutritional content of this substance. According to this table, the specific gravity of mother's milk, at approximately 70 degrees Fahrenheit, is 10.31. After standing twenty-four hours, it should show from 3.5 to 7 per cent of cream. It has 1.30 to 1.80 per cent of albumenoids, or casein.

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With a specific gravity of 10.28 or 10.29, there should be from 8 per cent to 12 per cent of cream at the expiration of twenty-four hours.

If the specific gravity goes decidedly above 10.31, the percentage of cream after twenty-four hours is likely to drop from 8 per cent to 5 per cent, which is considered relatively low for mother's milk.

These, however, are technical tabulations which may be of only academic interest to the average mother.

COMPARISON OF MOTHER'S MILK AND COW'S MILK

In dealing with the modification of cow's milk for human infants, Rotch has given us an interesting table showing the approximate composition of human and bovine milk, the reason for various attempts to modify cow's milk, and the results we hope to attain thereby.

This table shows that mother's milk is alkaline in reaction, while cow's milk is acid; and that there are no bacteria in mother's milk, whereas cow's milk not infrequently swarms with them.

The watery solids and fat content of mother's milk and cow's milk are approximately the same.

However, the albuminoids and the casein in mother's milk averages only 1 per cent, as against 4 per cent in cow's milk. The milk sugar in mother's milk, on the other hand, averages 7 per cent, as against 4.5 per cent in cow's milk. The ash in mother's milk is only two-tenths of 1 per cent, as against seven-tenths of 1 per cent in cow's milk.

Mother's milk has a specific gravity of approximately 10.31, while cow's milk runs several degrees lower. It is chiefly the high percentage of casein (the part which

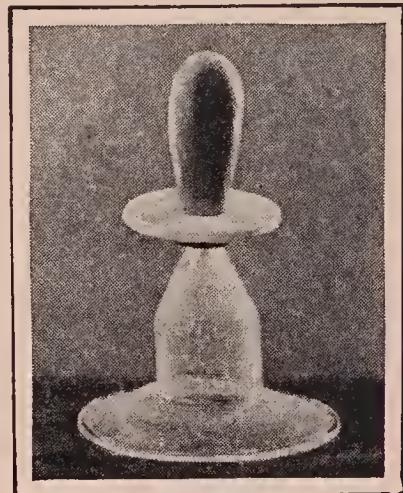
HOW TO RAISE THE BABY

forms the curd) in cow's milk which renders it unfit, without modification, for the human baby.

However, if we dilute it several degrees to make the albumenoid percentage identical with that of human milk, we also lower the amount of fat and sugar. The milk will therefore be imperfect in these particulars.

Therefore, after diluting the cow's milk, it is necessary to add sugar (as milk sugar), and more cream; and to neutralize its acidity it is frequently necessary to also add an alkali, such as the milk of magnesia, or lime water, suggested in the feeding formulas given later.

The curd of cow's milk is much tougher and more rubbery in consistency than that formed from mother's milk. This is probably due to some chemical peculiarity of the casein itself, although it may depend merely upon the larger amount of casein present in cow's milk, since the dilution of the cow's milk to the density of mother's milk seems to have a tendency to soften the curd.



Nipple Shield.

DIET OF THE NURSING MOTHER

The diet of the nursing mother is a matter of great importance. Naturally, during the time she is confined to bed, her diet will be very light, and possibly not of a very nourishing character, since the bedridden condition is not one to favor rapid digestion of food.

After she is up and about, she should employ every means to keep her digestive powers in the very best

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condition. In order to do this, she should have regular rest periods; should eat slowly, masticating her food thoroughly, and avoid all foods which are indigestible, or lacking in nutrition.

Many mothers have the idea that certain foods should be religiously avoided at this time lest they should give the baby colic.

This belief has very little reason for existence, unless the digestion of the mother is disturbed by the foods in question. There is no doubt, of course, that indigestion in the mother, no matter from what cause, is very likely to be followed by indigestion in the child.

Occasionally, however, it has been found that raw fruit, or acid fruits, especially plums or prunes, when eaten by the mother may, without interfering with her digestion at all, in some way alter the character of her milk and cause colic in the baby. This, however, is a very rare exception.

Also, it has been found that many articles of diet, such as turnips, onions, cauliflower and cabbage, which may contain aromatic oils, or which may have distinctive tastes and odors, frequently impart an unpleasant taste to the mother's milk, just as cow's milk may take on the taste of garlic eaten by the cow.

The majority of mothers who have good digestions, however, may allow themselves a very liberal diet, especially of natural, wholesome foods, without fear of influencing the baby's digestion.

WHEN THERE IS AN INSUFFICIENT SUPPLY OF MILK

When the mother's milk supply is deficient, it may usually be increased by proper diet and other measures.

HOW TO RAISE THE BABY

Cow's milk and milk foods in general, such as custards, puddings, etc., have often proved excellent galactagogues—as milk-stimulating foods are called. Cocoa and some of the extracts of malt are also useful.

Until or unless the supply of mother's milk can be increased, it will be necessary, in these cases, to reinforce the natural food by a milk modification.

This subject will be dealt with more at length in the following chapter.

Regular exercise in the fresh air will also favor the production of an adequate milk supply.

Late hours, or excitement of any kind, together with anxiety or worry, or nervousness, should, so far as possible, be avoided, as they tend to reduce the secretion of milk.

It is a matter of record, that milk secreted shortly after the mother has experienced violent anger, fright, or some other strong emotion, has acted as an intense poison to the baby. If the mother has been subjected to any of these influences, it would be well to empty the breast with a breast-pump, or to withhold the breast from the child for a number of hours, giving it some artificially prepared milk in the interim.

HOW TO HOLD THE BABY WHEN NURSING

When nursing from the left breast, the baby should be held on its right side, its little head supported by the left arm of the mother.

While nursing from the right breast, the position as above described, should be directly reversed, the child lying upon its left side. Occasionally, it may be found that the baby will vomit if nursed in the left-side posi-

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tion, owing to the pressure of its heavy liver upon the stomach. In this case, the baby should lie upon its right side, with legs tucked directly under the mother's right arm.

For the first nursings the mother may be propped in bed with a pillow, or may lie upon her side.

After she is able to sit up, it would be well for her to lean forward a little while nursing, so that the nipple may point in a downward direction toward the infant's mouth. At the same time, she should steady the breast with the first two fingers of the right hand, in order to keep it from pressing upon the nose of the child.

Should the child nurse too rapidly, the breast should be withdrawn from time to time, so as to prevent any possibility of choking, and also to allow it to recover its breath.

Should the milk flow too freely, it may be retained by exerting pressure between the fingers and the thumb at the base of the nipple.

If, however, the milk does not seem to flow with sufficient rapidity, or if the child seems delicate and unable to draw sufficient nourishment from the breast, pressure of the other hand upon the breast will aid in massaging more of the milk into the nipple orifice.

THE AMOUNT OF THE FEEDING

The first secretion of the breast, as already stated, is colostrum. For the first three days this is all that the baby requires, unless it be an occasional spoonful of cool water. The supply of true milk usually comes upon the third day, and is usually accompanied by a sense of fullness in the breasts and an uneasiness on the

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part of the mother. When this happens, it is well that baby should nurse at once and thus afford relief to the mother.

From the beginning it is a matter of utmost importance to both mother and baby to establish regular habits of feeding. For, if the mother gets into the habit of permitting the child to take the breast every time it cries, in order to keep it quiet, her own health is bound to suffer, and she will be perpetually tied to the child's side.

The baby will also be injured, for it will not have time to digest one supply of food before another is poured in on top of it. The result is often diarrhea and other digestive troubles.

After a month or two the infant should be trained to nurse just before the mother retires for the night, and then to sleep until morning. From the beginning of its life until the ninth or tenth month, the mother's milk should constitute the sole article of diet, except for orange juice.

From the very first the infant can be taught to get along without night feedings—and be better for it. If for any reason the mother feels that the baby should receive nourishment between ten o'clock and five or six, one small feeding may be given at the time baby awakens—if he does awaken. But it is a crime to awaken the child to feed him. In fact even if he does awaken and cry, a little plain water or diluted fruit juice will be just as apt to appease him and put him to sleep, providing of course that he was not aroused by some other bodily discomfort, internal or external. By giving water to a nursing baby from a feeding bottle two important ob-

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jects are accomplished, in addition to making him more comfortable: the child's fluid balance is maintained, and it becomes accustomed to the bottle instead of the breast.

The Nursing Time Table given in the following chapter is as valuable for breast feeding as for bottle feeding.

HOW TO WEAN A BREAST-FED BABY

After nine months, if the baby is normally healthy, it is well to begin the weaning process, so that it may be gradual and thus easier for both mother and babe. The



Preparing baby's orange juice. Always strain carefully to keep free from pits and pulp.

new diet of the baby should be in the form of cow's milk, which, ordinarily, should not be diluted.

Begin by feeding one bottle of full cow's milk each day. Use raw (unpasteurized) milk whenever possible. Pasteurized milk may be used if no other is obtainable. Many babies seem to thrive on it, but it is important that the juice of one-half or a whole orange be given with it.

HOW TO RAISE THE BABY

A day or two later two feedings may be given, and thus, by degrees, the child may be taken from the breast.

If the baby declines the new diet, it is best to give nothing more than water until he becomes hungry enough to take the milk without demurring. Then proceed gradually to increase the number of feedings of cow's milk, simultaneously shortening the nursing periods; until complete weaning from the breast is accomplished.

Care should be taken to have the milk warmed to the temperature of breast milk. In changing from the breast to cow's milk, it must be remembered that the latter is heavier, more solid, and hence more difficult to digest than the former. Therefore one must guard against overfeeding.

In hot weather it is usually wise to postpone the period of weaning somewhat, unless the mother's milk should have become scanty and of poor quality.

The child should be fed from the bottle until he has literally a mouthful of teeth. The only proper way for a baby to take liquid food is from the bottle. Frequently children become so attached to it that they give it up only with the greatest difficulty, and this attitude should be encouraged.

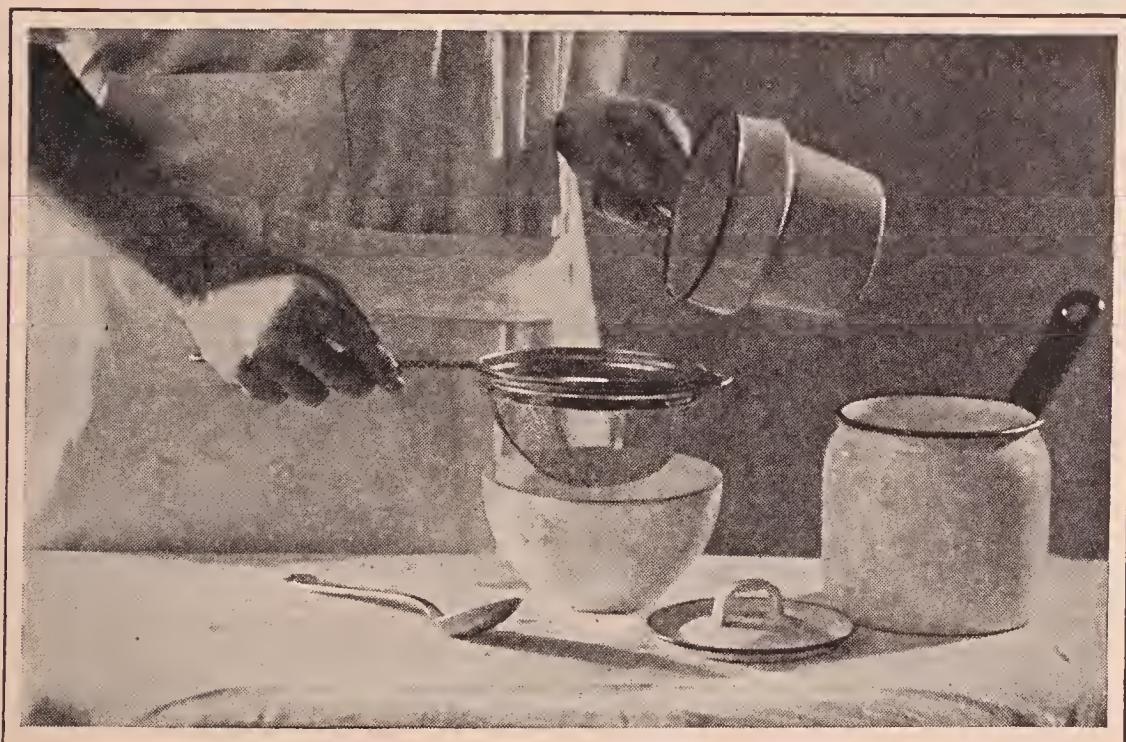
Beginning at eighteen months or two years of age all kinds of whole-wheat and other whole-grain preparations can be added to the child's diet, but they must be given with considerable moderation. When the mouth glistens well with teeth, a little "chewable" bread, best made from unsifted whole wheat (honest Graham flour) can be allowed. It should be well baked and given dry.

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FRUIT FOR BONES AND TEETH

At the same time one can begin the use of sub-acid and sweet fruit, such as oranges, ripe peaches, figs, grapes, muskmelons, sweet apples (in any form, but preferably raw, baked, or stewed), very ripe bananas, dates, prunes and raisins.

Of these fruits perhaps the best is the orange, when sound and ripe. Only the carefully strained juice should be fed to infants, to prevent the slight irritation consequent on the swallowing of fragments of pulp.



Straining the cereal used for baby's feeding.

These foods furnish valuable salts, and, as Drs. Bowers and Ryan point out in their book, "Teeth and Health," it is extremely important that young children should have plenty of these materials for the building of bones and teeth.

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The acid juice of fruits is a distinct reinforcement of the tooth-and-bone-producing salts of milk, for they are immediately separated in the stomach into the alkaline salts of calcium and potassium, both essential elements of tooth and bone structure. This is a point that even well-informed physicians and dentists seem to have ignored. Yet it is one of the most important facts connected with the feeding of young children.

Fruits are also valuable, of course, in maintaining regular action of the bowels.

WHEY AS A FOOD

Another excellent food for the bones and teeth is whey—a milk product that has been little used in America.

Whey is extremely rich in lime and other mineral salts which help to build bones and teeth, and our failure to make use of it in the feeding of humans perhaps has something to do with the prevalence of tooth decay among our children.

Whey also has the effect common to all soured milks of tending to overcome any inclination toward intestinal toxemia (one type of auto-intoxication), which is a very serious condition.

The best way to prepare whey is to heat a pint of fresh milk until it is lukewarm, then add a teaspoonful of rennet or essence of pepsin, stir for a few moments, and then allow to stand until it is firmly coagulated.

The curd is then broken up with a fork, and the whey strained off through thin muslin. The curd makes delicious "cottage cheese" for the older members of the family who are able to digest this excellent article of food.

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The whey, when given to children, should usually be diluted with water. And, except when fed to those with very weak digestive organs, it may have a little cream added to increase the nutritive properties.

WHAT KIDDIES THRIVE ON

There is a great variety of diet, nutritious and wholesome, that agrees excellently with children of, say, three years and over. But always the fact must be kept in mind that a weaning baby cannot safely take the same class of food that these older children can take. This weaning time is a critical period in the child's nutrition and, to a large extent, his future development depends upon the way in which he is fed during these precarious months.

No definite rule can be given as to the specific articles and quantities that should compose each meal for every baby. It is important that enough be given to insure a steady gain in weight, but the amount and variety should be kept down to just sufficient to accomplish this result and insure a satisfactory supply of all necessary elements.

CHAPTER XII

Bottle Feeding

A bottle tree bloometh in "Winkyway" land,
Heigh-ho for a bottle, I say;
A snug little berth in that ship I demand
That rockets the bottle-tree Babies away
Where the bottle tree bloometh by night and by day,
And reacheth its fruit to each wee dimpled hand;
And you take of that fruit as much as you list,
For colic's a nuisance and doesn't exist;
So cuddle me close and cuddle me fast,
And cuddle me snug in my cradle away;
For I hunger and thirst for that precious repast,
Heigh-ho for a bottle, I say.

—Eugene Field.

EXCEPT for an occasional case among animals in captivity, I have never heard of a mother of the lower creation who was unable to suckle her young. And in the human family it is only among the "civilized" races that such a condition is found. Here one finds many cases in which there is an absolute deficiency or absence of milk in the mother's breast. In such cases some substitute must be found, and as no chemist was ever able to prepare a food for infants which equalled that provided by nature this is a difficult task.

If there is *any* milk in the mother's breast, the baby should have it (except in those cases later mentioned in which it is inadvisable for the mother to nurse her baby), the deficiency in amount and quality being made up by a substitute. Seven bottle-fed babies die to one fed from the breast, and even a small quantity of its natural food is a tremendous advantage to an infant.

BOTTLE FEEDING

If a wet nurse is obtainable, she should by all means be secured. Many women who have been bereft of their own offspring, either at the moment of birth or later, would be willing to nurse another's baby, to save it from the dangers of bottle feeding, but great care must be taken, of course, to make sure that the substitute mother is absolutely free from disease, especially "blood diseases."

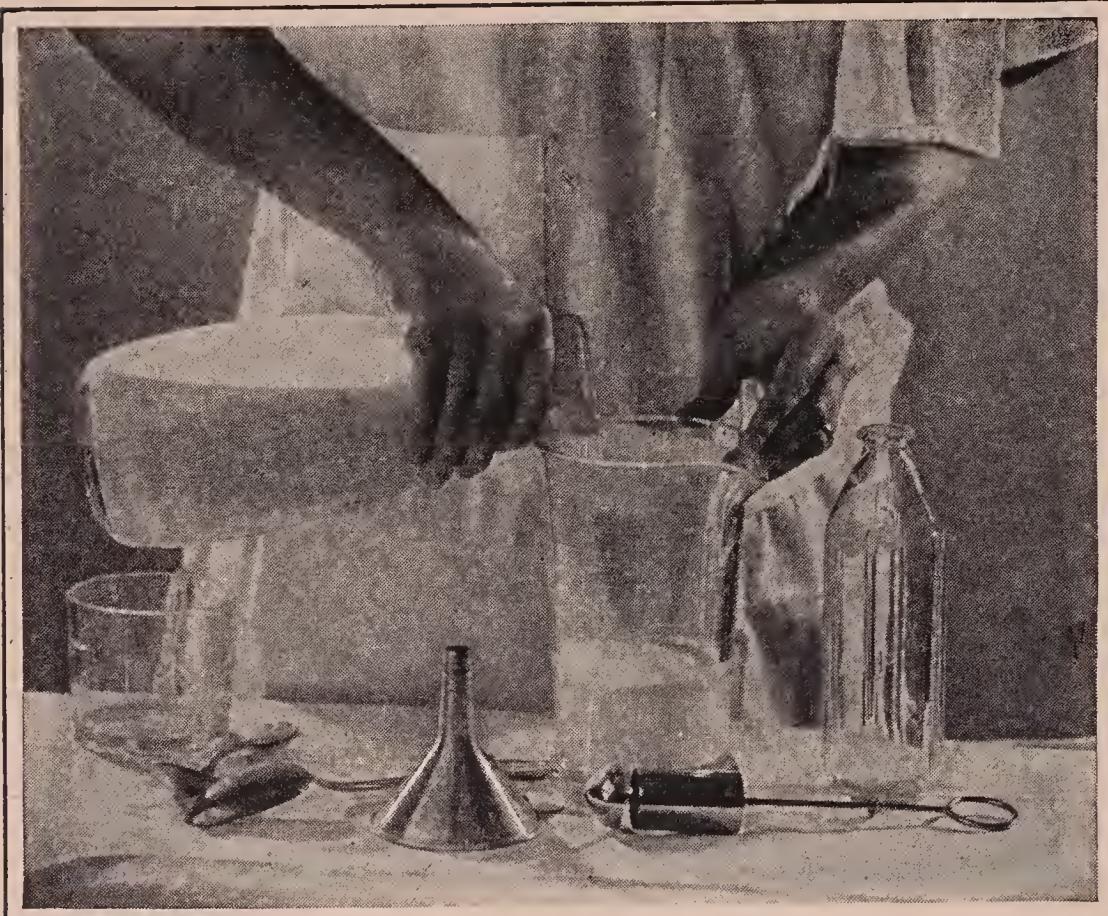
If such a wet nurse is not obtainable the best and most easily procurable substitute for mother's milk is cow's milk, raw if possible. Pasteurization and sterilization destroy a certain number of germs in the milk; but some of these germs are normally present in milk and should be retained. They also largely destroy the antiscorbutic vitamine, and may have other injurious effects that we cannot analyze.

No definite, absolutely reliable rule can be given as to the amount of milk necessary for a bottle-fed baby at any given age. For much depends upon the size, vigor and digestive capacity of the individual infant.

I personally believe that the entire "straight" milk of the cow, with the addition of a small amount of cream, may often be given to a baby under three or four months of age, and that this is best when it can be done. But because cow's milk is quite different from mother's milk, perhaps at the very first only a few teaspoonfuls should be given (in a baby bottle) to a wee infant at each feeding, with pure unaltered water.

As graded in the cities certified milk is best, but Grade A pasteurized milk must be used in many cases, owing to the considerably greater cost of the certified milk. Pasteurized milk has the objections already stated, but

HOW TO RAISE THE BABY



Pouring milk into graduated glass preparatory to adding the supplementary materials called for in baby's feeding formula.

gives good results in most cases. Its tendency to produce scurvy may be overcome by the use of fruit juices. Sterilized (boiled) milk should never be used if it is possible to avoid it. These details are for city mothers. Those living in small towns and in rural districts need not worry about them.

Further on in this chapter will be found full directions for pasteurizing milk. By following these suggestions any mother can make cow's milk safe for her baby.

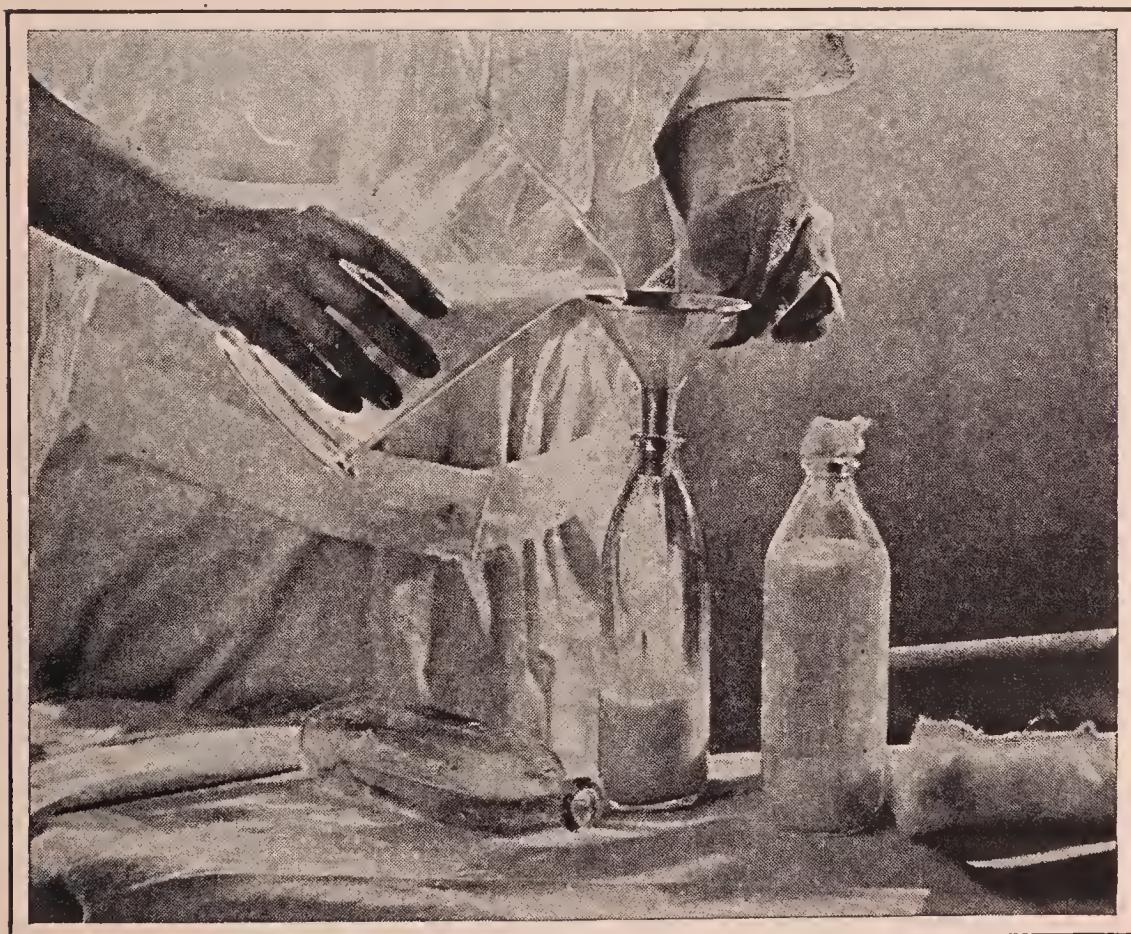
Holstein or Ayrshire cows give the best milk for infant feeding, as the percentage of fat is considerably less than in Jersey and Guernsey milk.

BOTTLE FEEDING

All other breeds of cattle give milk of a medium grade that is perfectly safe to use. In many localities where dairies are not kept, farmers have cows or herds of mixed breeds. If the cows themselves are healthy, well fed and well kept, their milk will be satisfactory for all purposes.

And it is advisable always to use mixed milk, rather than milk from a single cow, since there is less variation from day to day.

Sometimes a change in the source of milk will be an advantage to the baby, if he is not progressing favorably, even when the modification is exactly the same as before.



Preparing the day's feeding for baby.

HOW TO RAISE THE BABY

THE FEEDING OUTFIT

While I have stated that I believe in giving "straight milk" whenever possible, in many cases it will be necessary to modify the milk, and for the benefit of mothers of such babies it may be advisable to give some modifying formulas, as well as a list of articles useful in the process. The complete outfit for the feeding of a bottle baby and for modifying the milk should consist of:

- Bottles—one for each feeding during the twenty-four hours. The mouths should be large enough to admit a brush for cleaning.
- Stoppers of rubber or non-absorbent cotton for the bottles.
- A sixteen-ounce graduated measuring glass, with a spout or lip.
- Nipples. Get those without holes and which can be turned inside out. Pierce the end with a small needle, having the hole just large enough to let the milk drop out rather rapidly when the filled bottle is inverted, but never run in a constant stream.
- Bottle brush for cleaning inside of bottles.
- Cream dipper, or a siphon made of two pieces of glass tubing, joined by a rubber tubing with a shut-off attached.
- Small funnel for filling bottles.
- Teaspoon.
- Tablespoon.
- Pitcher holding about two quarts—of enamel or agate ware.
- A roll of sterile non-absorbent cotton, or even absorbent cotton.
- A wire rack to hold the bottles.
- A teapot. This should be of enamel or agate ware, and should be kept filled with boiled water, the nozzle constantly covered or filled with the cotton.
- A large pan that will hold all of the above articles for boiling them. This pan should not be used for any other purpose.
- If any cereal, such as strained oatmeal, or barley water, is needed for the baby, it will also be necessary to provide a double boiler.

BOTTLE FEEDING



Testing temperature of milk in bottles by dropping on back of hand. Taking the nipple in the mouth to test the temperature of the milk is a practice that cannot be too strongly condemned.

PREPARATION OF THE MILK

The best method of preparing the milk is to put in the pitcher the correct amount of milk sugar (as directed later), cream and milk, with water or lime water; stir well, then pour into the feeding bottles, cork these or insert cotton or gauze stoppers; set the bottles in the wire rack and place all in the ice box.

The entire supply for twenty-four hours should be prepared at one time, and one bottle at a time should be taken out, as required for feeding. This one bottle should be placed in a pitcher or pan, which is filled with enough warm water to bring the milk up to the proper temperature.

This temperature may be tested by pouring a few drops of milk on the inner surface of the elbow—where

HOW TO RAISE THE BABY

it should feel comfortably warm. *But never test by tasting*—for this careless act may contaminate the nipple with pathogenic germs, which are always present in the mouth.

Never put the baby's milk directly over the flame to warm it quickly, for the milk will be heated too much or scorched.

WHY DILUTION IS FREQUENTLY NECESSARY

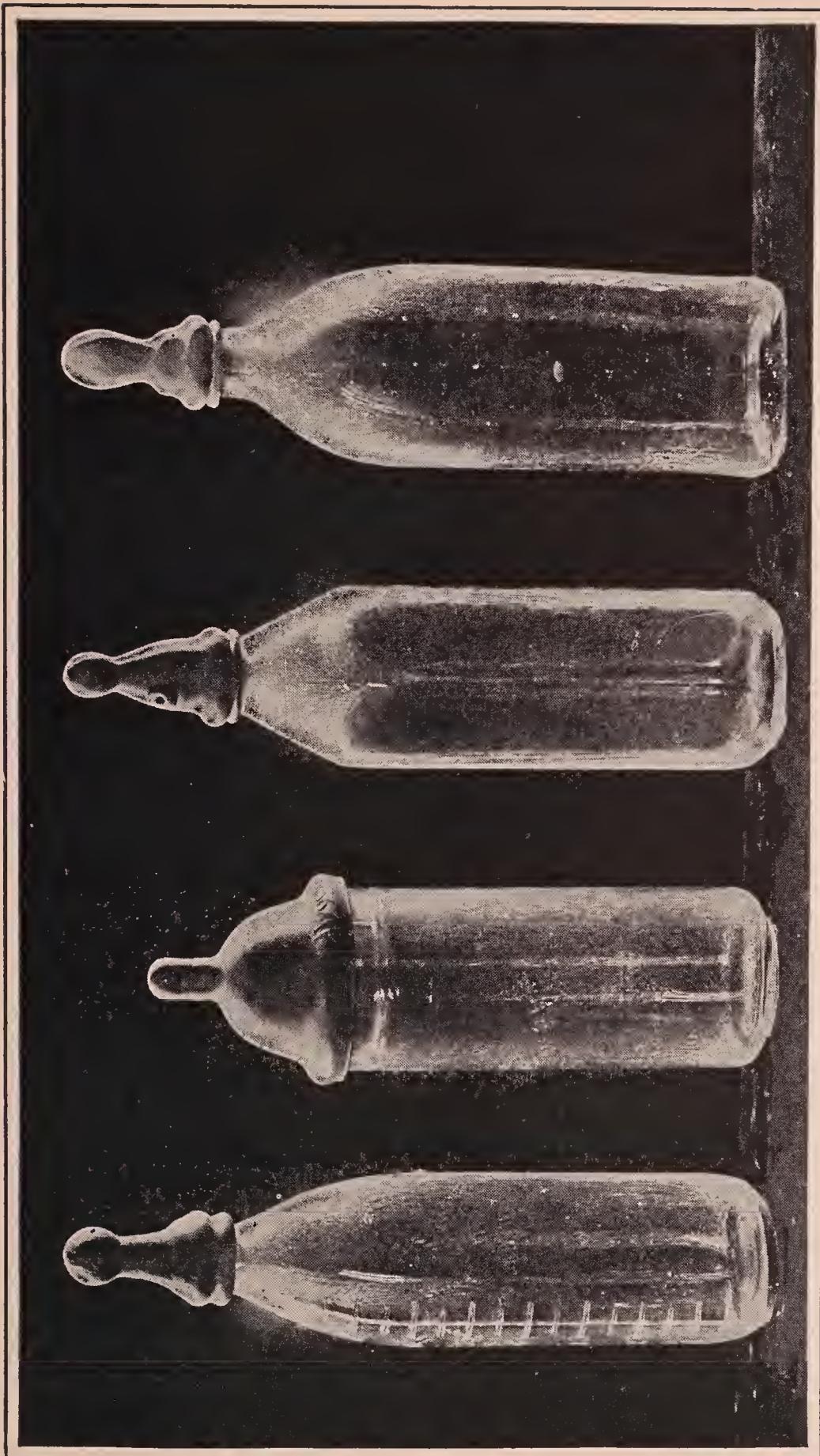
Cow's milk, as we have seen, contains nearly three times as much protein (in the form of casein) as is found in mother's milk, and this casein is also less easy to digest.

Therefore, in order to approximate more closely the chemical and nutritive balance of mother's milk, it is necessary in a large number of cases to reduce the heaviness of the cow's milk by dilution.

The extent of this dilution varies somewhat, although the best authorities agree that for the early weeks of infancy the milk should be diluted twice—that is, one-third milk and two-thirds water. After the third month a fifty per cent dilution will be about right.

Another purpose of this dilution is to reduce the amount of fats in the food. For it has been determined that, although the percentage of fats in cow's milk and in mother's milk is approximately the same, the fat globules in mother's milk are much more finely subdivided. As a consequence, the fat globules in cow's milk are much more difficult for the baby to digest.

The "seven percent top milk" is usually regarded as the most adaptable part of the milk for infant feeding.



Types of feeding bottles and nipples.

HOW TO RAISE THE BABY

This is secured by removing the upper sixteen ounces (one-half) from a quart bottle of cow's milk.

If the milk is only of fair grade as to richness, slightly less top milk can be used to secure the "seven per cent top milk," as the more milk poured off the less rich the mixture in cream.

In removing this "top milk" from the bottled milk, it is well to use the Chapin dipper or a siphon. Or the dipper devised by the Walker-Gorden Laboratories of New York may be found convenient.

These dippers hold one ounce. It will therefore be comparatively easy to estimate the proportion of fats and protein entering into the formula.

The following is the author's

SUGGESTED TABLE OF MODIFICATION FOR BOTTLE FEEDING OF AVERAGE INFANT:

AGE	TOP MILK OUNCE	MILK SUGAR OUNCE	LIME WATER IF NEEDED	BOILED OR DISTILLED OUNCE	AMOUNT OF EACH FEEDING OUNCE
Up to One Month.....	5	1	1	15	1½ to 2
One to Two Months.....	7	1	1	15	2 to 3
Two to Three Months.....	10	1	1	15	3 to 4
Three to Four Months.....	15	1	1	15	4 to 5
Four to Six Months.....	20	1	1	15	5 to 6½
		WHOLE MILK		BARLEY WATER	
Seven to Eight Months.....	25	1	1	10	7 to 8
Eight to Ten Months.....	27	1	1	10	7 to 8
Ten Months and Upward..	32	1	1	8	8 to 10

It will be seen that this allows a smaller quantity than the succeeding formulas, but I believe it will provide sufficient nourishment for any baby of the ages given.

BOTTLE FEEDING

One good rule to follow for the average infant is to add *one* to the baby's age in months, and give that number of ounces per feeding. That is, if the baby is three months old, add *one* to *three*, which makes *four*. This number of ounces will be approximately correct for that age. This is merely a rough guide, however, for it will be necessary to give a small, frail child less, while a larger, sturdier child will require more.

If it is evident that the child is not digesting its food, as learned from the stools, or if it is gaining weight too slowly, strained barley water may be used in place of the boiled water and in the same proportions.

If there are "green stools," or if there is a tendency to diarrhea, lime water may be used in the formula, also as a substitute for an equal amount of boiled water. In these cases the sugar should be eliminated entirely for a short period.

GIVE WATER BETWEEN FEEDINGS

It must be understood that the water in the feeding does not supply all the water the nursing babe should have. Plain boiled water, slightly warmed, should be given in the bottle between feedings. Some prefer to give the milk sugar with the water, leaving it out of the milk.

Another formula for infant feeding, and one which is highly approved by eminent pediatricians, calls for "top milk," dextrose (a new feeding sugar), milk of magnesia, and water.

The purpose of adding the milk of magnesia, as already stated, is to overcome the acidity of cow's milk, and make it more nearly approximate mother's milk in

HOW TO RAISE THE BABY



Improperly adjusted nipple. Causes baby to bite on hard glass rim of bottle.

AGE	TOP MILK OUNCEs	DEXTROSE OUNCEs	MILK OF MAGNESIA TEA- SPOONFULS	FILTERED OR BOILED WATER OUNCEs	TOTAL OUNCEs
Three to Ten Days.....	6	1 1/2	1/4	16 1/2	24
Ten to 21 Days.....	7 1/2	2	1/2	21 1/2	30
Three to Six Weeks.....	10	2	3/4	20	32
Six to Twelve Weeks....	14	2	1	20	36
Three to Five Months...	18	2	1 1/4	20	40
Five to Seven Months...	21	2	1 1/2	19	42
Seven to Nine Months...	27	2 1/2	1 3/4	18 1/2	48
Nine to Twelve Months.	32 (1 Qt.)	2 1/2	2	18 1/2	53

its chemical constituents. In no sense is it to be regarded as a "medicine."

The formulas at bottom of page are based on the substitution of dextrose for milk sugar and milk of magnesia for lime water, and are to be used after the supply of colostrum has been exhausted, and in those cases where the milk proper is not secreted in sufficient quality or quantity.

Some physicians who have given special study to diet say that three feedings each day will give the baby all the

BOTTLE FEEDING

nourishment required, and that the limitation of its meals to this number will obviate most of the digestive and other ills that baby often has.

I consider that this is too rigid a regime for a very young infant, and will make it necessary for the baby to take too much food at a time. In practically every instance I believe that the number of feedings given in the table on the next page will prove more conducive to a steady, normal growth.

While some consider night feedings a necessity for young infants, you will see that at a very early age it can be arranged to allow both baby and mother to rest undisturbed during their sleeping hours. This arrangement is very successfully accomplished in the following schedule.



Properly adjusted nipple.

HOW TO RAISE THE BABY



Incorrect feeding position for bottle baby. Don't hold the baby during his feeding, as he is apt to be cramped and uncomfortable.

NURSING TIME TABLE

FIRST WEEK	SECOND WEEK		THIRD MONTH		EIGHTH MONTH		TENTH MONTH	
	TO THIRD MONTH	TO SEVENTH MONTH	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
A.M. P.M.	A.M. P.M.	A.M. P.M.	A.M. P.M.	A.M. P.M.	A.M. P.M.	A.M. P.M.	A.M. P.M.	A.M. P.M.
3:00 1:00	6:30 2:30	7:00 1:00	7:00 1:00	7:00 2:00	7:00 2:00	7:00 3:00		
6:30 3:00	(Bath 5:00	(Bath 5:00	(Bath 4:00	(Bath 5:30	(Bath 5:30	(Bath 7:00		
(Bath 5:00	at 7:30	at 7:30	at 7:00	at 9:00	at 9:00	at		
at 7:00	9:00)	10:30	9:30)	10:00	10:00)		10:30)	
8:30)	9:00	9:30		10:00			11:00	
9:00	11:00	12:00					(Nap)	
11:00								

BOTTLE FEEDING

During the time the infant is on the colostrum, there should be six feedings a day, with four hours intermission between feedings. This will be for the first two days at least. For the remainder of this first week feed as per schedule above, and don't fail to give baby a few spoonfuls of water occasionally at this time, especially so if crying indicates discomfort.

It is always better for the baby's health to err on the side of deficiency rather than excess of food, and infrequent rather than too frequent feedings. Experience and experiment alone will decide the quantity of food and number of feedings best suited to any individual case. We can only give rules that have been followed with success in many other cases. Let the baby decide for himself the quantity of his food on hot days, for, if he has always been fed properly, his appetite and instinct will more safely guide him in his diet than his mother's knowledge and desires.

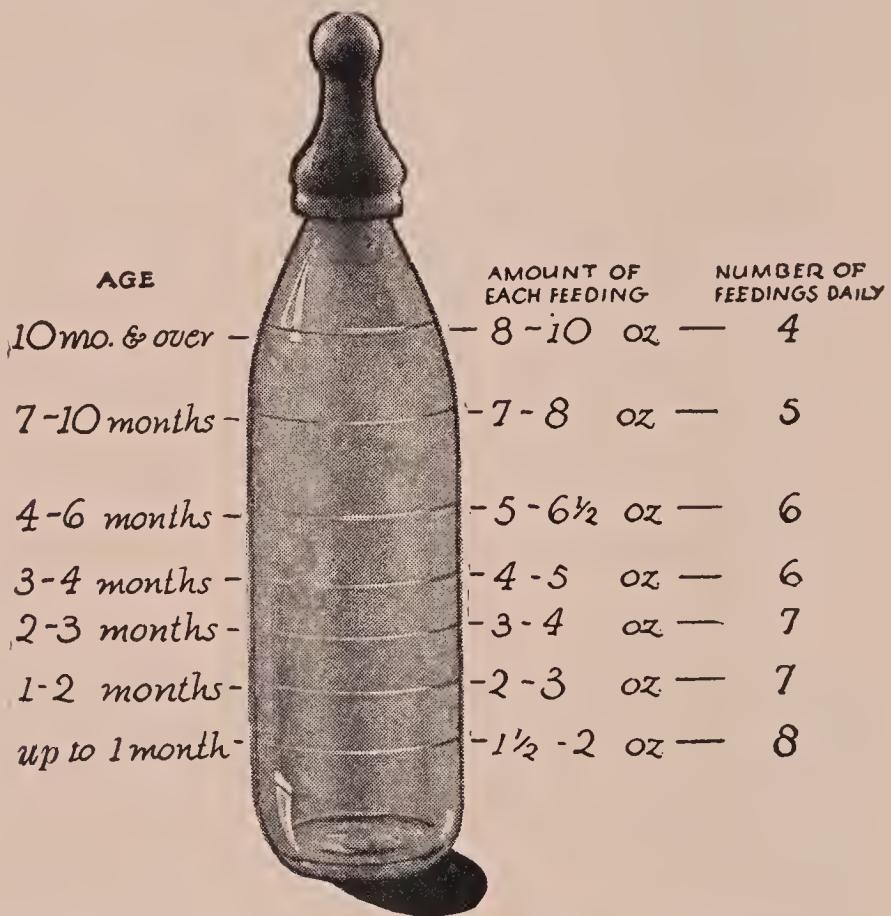


Correct feeding position for bottle baby. Baby is most comfortable when lying on his side with head slightly elevated.

HOW TO RAISE THE BABY

POSITION DURING NURSING

Regardless of what is said concerning the best positions of the child while nursing from the bottle, many mothers will doubtless use the customary position on the back. If the pillow is propped uniformly so that the baby's head is somewhat higher than the abdomen and so that the stomach will not be folded forward in such



Approximate quantities and number of feedings for baby at different ages. The amounts given are for each feeding during the day.

a way as to lessen its capacity, this position should be satisfactory; for baby's stomach is little more than a dilatation in the digestive tube and is not a large curved pouch.

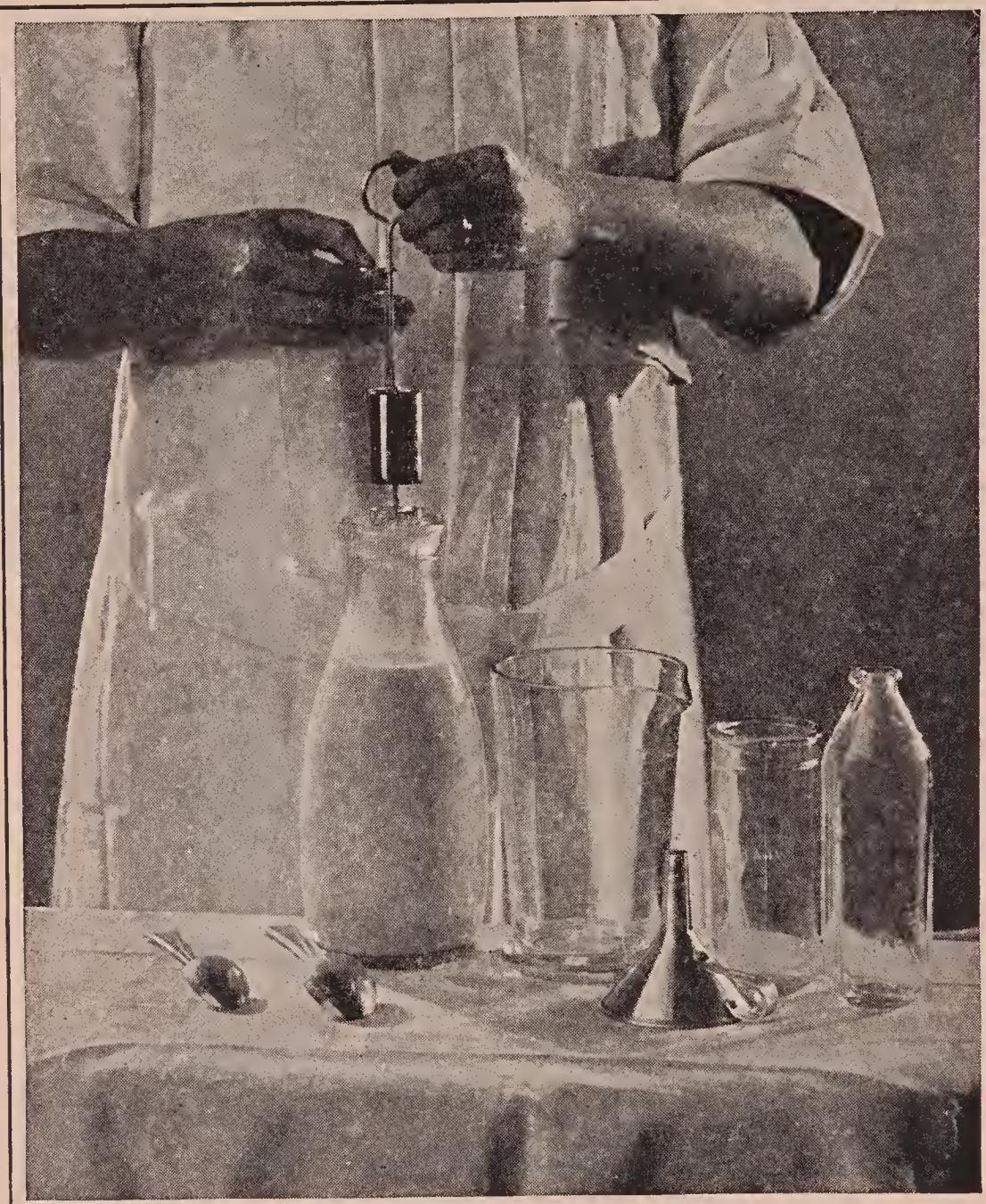
BOTTLE FEEDING



To prevent colic after feeding. Hold the baby up on your shoulder and pat his back for a minute to allow regurgitation of air swallowed with milk.

But perhaps the position that interferes least with digestion is lying on the right side. The pillows, even in this case, should be uniformly elevated from the feet up to the head, and wide enough so that the bottle can be easily supported on them by the baby's side.

HOW TO RAISE THE BABY



Using the Chapin Dipper.

LENGTH OF NURSING PERIODS

Ten to twenty minutes is all baby should require for each feeding, after which the bottle should be taken away, and not given again until the next feeding. Or, better still, perhaps, he may be allowed to feed as long

BOTTLE FEEDING

as he is eager for the bottle. When he begins to "play" with the nipple, or takes the milk without interest, remove the bottle.

After feeding, lift the baby out of the crib, place him on your shoulder, and pat him gently for a minute, to allow him to regurgitate any air that he may have swallowed.

Then put him back in his crib, *and let him alone*—so as to give him the best possible chance to digest his food and get off to dreamland.

Never let the youngster form the habit of going to sleep with the nipple in his mouth. This for reasons which have already been explained in detail.

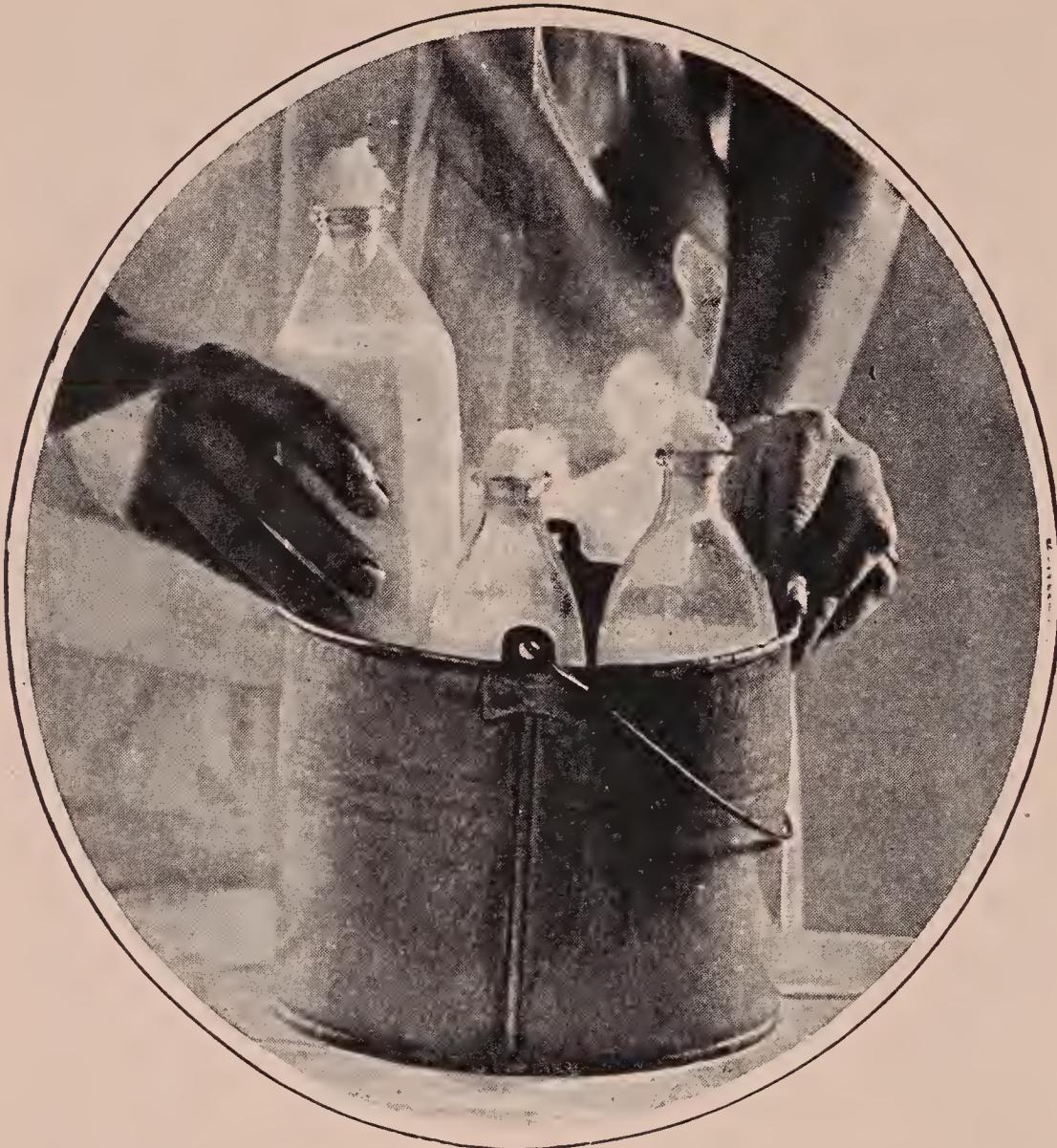
HEALTH AND HYGIENIC PRECAUTIONS

After feeding, the bottle and nipple should be rinsed in cold water. The bottle should then be filled with water to which a little bicarbonate of soda has been added, and the nipple should be placed in a covered glass containing a solution of boric acid or borax.

Before being filled again next morning, each bottle should be carefully washed with a bottle brush and hot soap-suds, then placed for a few minutes in boiling water.

The nipples should also have a daily washing with soap and water, after which they should be kept in the boric-acid solution until required.

If these precautions are carefully observed, you may be absolutely certain that your baby will be protected from the scourge of bottle-fed babies, infection from unsanitary bottles and nipples, and from all the trouble and danger that this infection entails.



Placing bottles in kettle for home pasteurization.

PASTEURIZED AND STERILIZED MILK

I do not approve of sterilizing milk, for sterilizing means that not only is at least one of the highly essential vitamines of the milk destroyed by long boiling (from an hour to an hour and a half at 212 or more degrees Fahrenheit), but also the casein of the milk is rendered decidedly less digestible.

BOTTLE FEEDING

Pasteurizing, on the contrary, means the heating of the milk to from 150 to 167 degrees for a period of twenty to thirty minutes. This degree of heat and length of time are usually sufficient to destroy malignant micro-organisms and at the same time leave practically intact the vital nutrient elements of the milk.

While unpasteurized milk is rarely fit for use after it is a day or two old, particularly for baby feeding, properly pasteurized milk will keep on ice for several days. It will have no objectionable taste and it is generally considered that its digestibility and nutritive qualities are but slightly changed. This, however, as I have stated elsewhere, I have some reason to doubt. The antiscorbutic vitamine is very sensitive to heat, and the others may perhaps be susceptible to lesser temperatures than we have heretofore been led to believe.

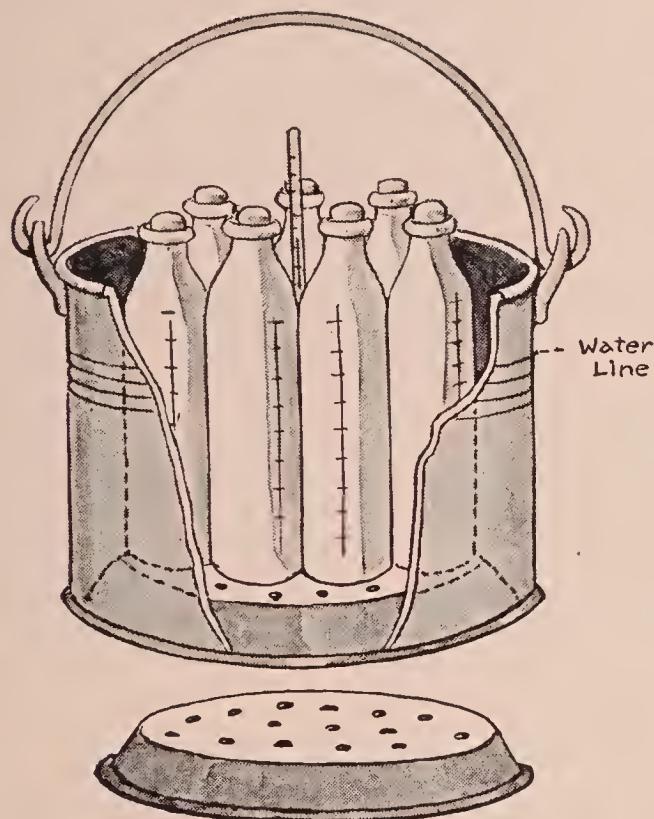
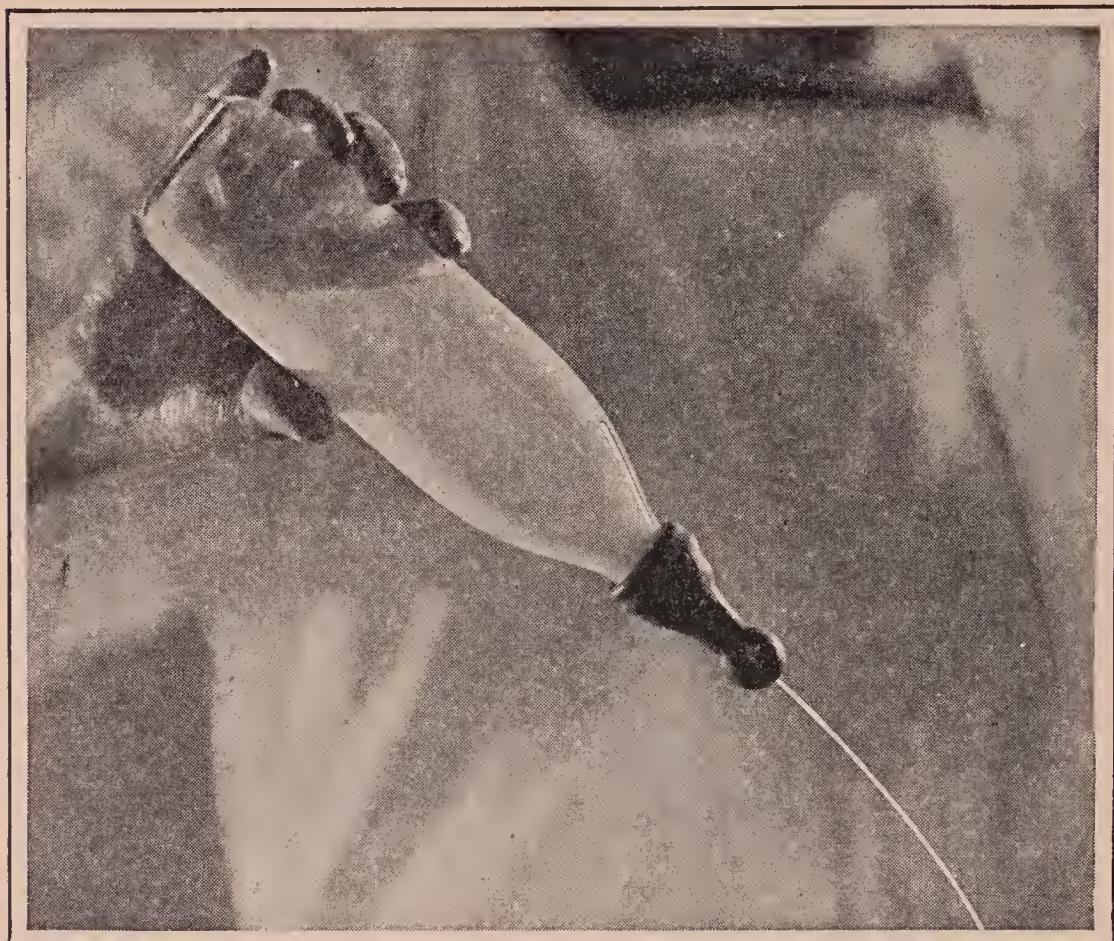


Diagram illustrating how an ordinary kettle may be used for pasteurizing by inserting a "false bottom" to raise the bottles from the floor of the kettle, which is in contact with the fire. The perforated false bottom is separately illustrated at the foot of the diagram.

HOW TO RAISE THE BABY

As stated earlier in the chapter, I prefer plain raw milk when we can be sure that it is safe.

Certified milk should be used wherever it is possible to secure it. If this cannot be obtained, and pasteurized milk is not available, one can, if one wishes,



Showing incorrect flow in a steady stream. This causes too rapid feeding, producing digestive disorder.

do one's own pasteurizing. The following method will prove very effective for

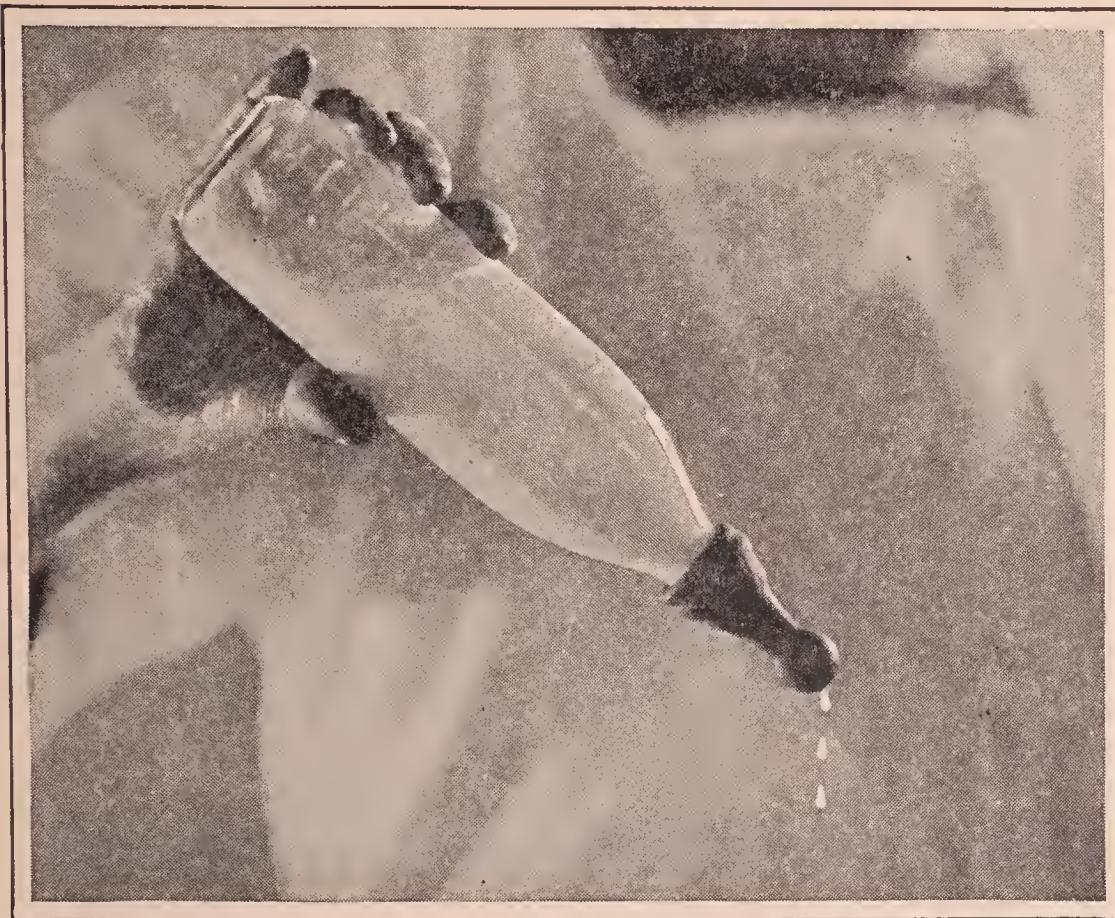
HOME PASTEURIZATION

Have the milk modified as for feeding, and bottled—the bottles corked or stoppered with cotton. Place the bottles in some vessel with vertical sides and a false

BOTTLE FEEDING

bottom, made by perforating and inverting some shallow pan like a pie tin. Put in enough water to come level with the milk line, and place thermometer perpendicularly in the water among the bottles.

Heat the water to 150 to 167 Fahrenheit, leave for twenty minutes, remove the whole from the fire, and



Correct flow—drop by drop.

wrap in warm blankets or other covering to preserve the temperature for ten to twenty minutes longer, or continue the direct heat for a full half-hour. Cool bottles quickly in running water and place in the refrigerator.

If the home has no ice box, wrap the cooled bottles in sterile wet flannel, or other cloth, and set in the coolest place in the house.

HOW TO RAISE THE BABY

CONDENSED MILK

Condensed milk, evaporated milk, dried milk and other forms of concentrated milk have a certain utility, but are particularly adapted for emergencies, or for tropical and sub-tropical countries, where it is impossible to secure fresh cow's milk.

Inferior grades of milk are frequently used in these preparations, and some of the fat may be removed.

They should rarely be used except on the advice of a physician, and then only temporarily as a tide-over, as when traveling, until fresh milk can be secured.

Evaporated milk and dried milk are to be preferred to condensed milk, as the latter contains cane sugar, which acts as an irritant to the intestinal canal of a delicate child.

If condensed milk is used, it should be diluted—say, for an infant three or four months old, with about twelve parts of plain boiled water, or, preferably, with barley water.

This barley water is prepared by adding one tea-spoonful of barley flour to a little cold water, then stirring thoroughly into this ten ounces of boiling water to which a pinch of salt has been added. Cook this in a double boiler for thirty minutes. Then strain, and add enough hot water to bring the quantity up to one pint.

When condensed milk is used as the basis of the child's food, the dilution can be gradually reduced to one part to ten parts of water, then one part to nine, one to eight, etc., according to baby's digestion and progress

BOTTLE FEEDING

generally, gradually lengthening the intervals between feedings.

Evaporated milk requires the same addition of dextrose or milk sugar as does plain milk—about one ounce to every twenty ounces of food. More specific suggestions are not given, since, as stated above, these milks should *usually be used* only on the advice of a fully experienced physician.

CORN SYRUP IN INFANT FEEDING

From the standpoint of nutriment, there is really very little difference between cane sugar, levulose (as found in fruits or honey), dextrose and maltose. These sugars are all nutritious, fairly easily digested, easily assimilated, and all yield approximately the same amount of energy to the body.

In the matter of sweetness, of course, there is considerable variation. For, assuming that the sweetness of cane sugar (sucrose or saccharase) should be 100, that of levulose would be 150, maltose 60, dextrose 50, and 40 per cent glucose (corn syrup) 20.

One of the most notable contributions to the modern science of infant feeding is the discovery of the fact that corn syrup is of extraordinary value in the feeding of infants.

Dr. W. McKim Marriott, of St. Louis, in the Journal of the American Medical Association of October 18th, 1919, has suggested the use of corn syrup as a carbohydrate in the modification of milk for baby feeding, in preference to any other form of sugar, especially where there is any intestinal fermentation present.

A mixture of 45 volumes of corn syrup with 55

HOW TO RAISE THE BABY

volumes of water gives about 50 per cent of carbohydrates. This corn syrup is absorbed so rapidly that but little fermentation can occur before absorption, and, unlike other sugars, it has but little tendency to induce diarrhea. The stools remain firm, formed and pasty, and average from one to three a day.

With many infants on whom the formula was tried, there seemed to be almost no limit to the amount of carbohydrate that could be added to the milk mixture without digestive disturbance. The advantage of this heat-and-energy-yielding food, given in such quantities to weak and emaciated infants, can hardly be over-estimated. The corn syrup used is of the ordinary commercial variety, containing 80 to 85 per cent of carbohydrate by weight.



Clean nipples should be kept in a covered glass containing boric-acid solution.

COMBINE IT WITH LACTIC-ACID MILK

When corn syrup is used as the carbohydrate in combination with lactic-acid milk, the results have been extraordinarily good, especially in cases of diarrhea and vomiting, which do not seem to yield to the ordinary methods of milk-formula adjustment.

This lactic-acid milk is prepared by first pasteurizing milk as explained elsewhere in this chapter, then cooling to room temperature, "inoculating" with a culture of Bulgarian bacillus, or some other lactic-acid-producing organism, and incubating overnight.

When properly prepared, the lactic-acid milk is of a

BOTTLE FEEDING

thick, creamy consistency, delicious to the taste, and exceedingly digestible. For, it will be remembered, one of the first steps in the digestion of milk is to thoroughly coagulate it.

Do not forget that too long a period of incubation, or too high a degree of temperature, may result in the separation of the curds and whey.

Inasmuch as a thick syrup is somewhat difficult to handle and to mix with milk, it is much more convenient to prepare a diluted syrup, using as already mentioned 45 volumes of the thick syrup to 55 volumes of water.

It is advisable to increase the amount of syrup gradually so as to bring the carbohydrate up to the infant's point of tolerance, and insure a steady progressive gain. The number of ounces of milk given at each feeding should be about the same as when breast milk is fed.

The mixture I have here described has a food value of 25 to 30 calories to the ounce, which amount is greater than that of breast milk, or of any of the routine milk modifications that can be fed with any assurance of safety. It can be used to advantage in cases in which a higher calorific value to the ounce is required, as when, because of a weakened condition, an infant can take only a limited number of ounces at each feeding and only a limited number of feedings during the twenty-four hours.

But let me add that if the infant is fed on good fresh milk, with fruit juices and occasionally scraped apple-pulp from very sweet apples, there will be no need for correction by corn syrup or any other laboratory

HOW TO RAISE THE BABY

preparation. Nature's laboratory has never yet been improved upon, or even equalled.

PREPARED MILK SOMETIMES CONSTIPATING

It may be well to mention here that infants and children fed on an artificial milk diet are prone to develop



After a preliminary rinsing, the bottles should be filled with a solution of bicarbonate of soda and allowed to stand until the time comes for boiling them.

constipation, a condition which favors the storing up in the system of the poisons of decay, which, if not properly eliminated, tend to weaken the organic resistence, depress the system, and lower the vitality to a very great extent.

BOTTLE FEEDING



Bottles must be scrupulously washed with brush and hot suds before being put to boil. A special vessel should be set aside for this purpose.



Cleaned bottles ready to be soaked in boiling water before being used.

HOW TO RAISE THE BABY

Many such cases are corrected by the simple procedure of omitting the sugar content of the milk preparation, for it is a certainty that these sugar preparations do have a marked tendency to "upset" the normal action of the bowels in the vast majority of cases. Fruit juices should always be given with such foods.

PROPRIETARY FOODS FOR BABY

There are many baby foods, extensively advertised, which have achieved a very considerable recognition, and which are undoubtedly of value in some selected cases. A very pertinent objection to these foods, however, is their high carbohydrate (fattening) content, which has a tendency to throw out of balance the digestive and assimilative functions.

For the chief nutritive ingredient of these foods is maltose, in combination with protein and a limited amount of fats.

Among these maltose preparations are Horlick's "Malted Milk," Meade Johnson's "Dextri-Maltose," and various German preparations, as for instance, "Nahrzucker" and Loeflund's and Brorcherdt's "Malt Soup Extract"—also the somewhat less expensive "Neutral Maltose" of the Maltzyme Company.

As the directions for the feeding of babies of different ages are given with these products, it is not necessary to go into details on this point. But for an infant of six months or thereabouts, from two teaspoonfuls to two tablespoonfuls of any of these preparations may be added to the daily allowance of food, replacing an equal quantity of milk sugar in the modifications. This

BOTTLE FEEDING

applies also to Mellin's Food, which contains a large percentage of maltose.

As to the relative merits of these foods there is not much to be said. Some babies will thrive surprisingly well on one formula, others on another; and it is quite a usual thing to see babies get round and rosy on a formula that would be absolutely contra-indicated or unproductive of favorable results in other babies.

With these malt-sugar preparations, providing they can be properly tolerated, many children gain more rapidly in weight than when only cane sugar or milk sugar is used.

Maltose is somewhat more laxative than other artificial sugars; therefore it may be advantageous in cases of constipation.

AN EXCESS OF MALT SUGAR IS LIKELY TO CAUSE DIARRHEAL CONDITIONS

On the contrary, if there is already a tendency to a too free action of the bowels, the use of preparations containing an excess of malt sugar is likely to aggravate the condition, or produce a tendency to frequent vomiting. Therefore it is always advisable to carefully watch the stool while administering these preparations.

The purpose of the sugar element in the various formulas is to furnish one of the elements needed for the growth of the body—and one that very young infants require in relatively larger quantity than older children, as shown by the fact that in rich mother's milk the amount of milk sugar is greater than that of the protein, fats and salts combined.

But foods that contain a large amount of malt sugar

HOW TO RAISE THE BABY

are liable to make baby fat and "lazy," at the expense of bone and structural growth.

If these foods are employed at all, then, it is important to gauge the baby's development in ways other than that of mere gain in weight.

WEANING THE BOTTLE BABY

In introducing solid foods into the diet of a bottle baby the same procedure should be employed as with a breast-fed baby at the same stage. If the bottle nursing has been adjusted so that it has accomplished approximately what breast milk would have done, the digestion, nutrition, and general condition of the baby will be equal to that of a naturally fed baby and no difference in further treatment should be required.

CHAPTER XIII

Weight, Growth and Development Physical and Mental

When our Babe he goeth walking in his garden
Around his twinkling feet the sunbeams play;
 And posies they are good to him,
 And bow them as they should to him,
As fareth he upon his kingly way;
And birdlings of the wood to him
 Make music, gentle music, all the day,
When our Babe he goeth walking in his garden.
—*Eugene Field.*

WHILE there is, naturally, a difference in the development of children, babies who are normal reach certain stages and accomplish certain things at about the same age.

For instance, growth and the increase in weight, the development of the ability to stand or walk, or to express certain emotions, the eruption of the teeth, etc., are fairly uniform among babies of the same race and living under the same conditions.

If the baby does not develop precisely according to schedule, however, the mother need not be alarmed, unless the child is pronouncedly backward in certain definite respects.

THE WEIGHT OF THE CHILD A VERY IMPORTANT MATTER

The average weight of babies at birth varies from $6\frac{1}{2}$ to $7\frac{1}{2}$ pounds, the boys being, generally, slightly heavier than the girls. While no hard and fast rule can be laid down, it may be stated that during the first week

HOW TO RAISE THE BABY

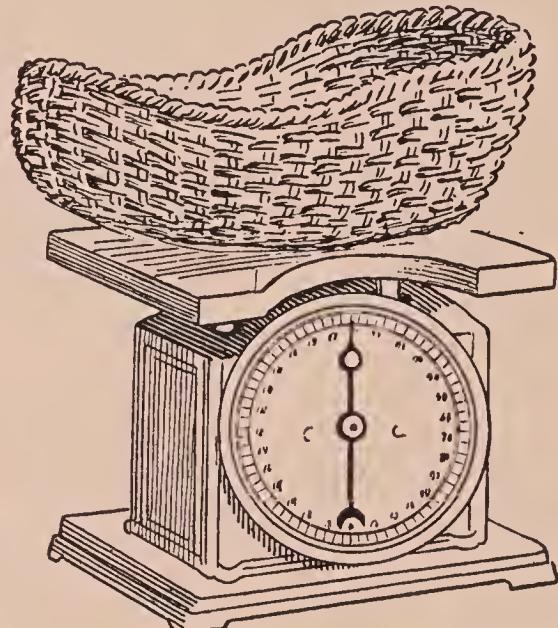
the baby may be expected to lose an ounce and a half or two ounces of weight. By the end of two weeks he usually weighs somewhat more than at birth. Then he should gain about an ounce a day for the first and second months.

During the third and fourth months the baby should gain about five ounces a week, or, roughly, three-quarters of an ounce a day, so that by the time he is five months old he will have doubled his original weight.

During the fifth and sixth months the increase should be approximately two-thirds of an ounce a day. After this, from the sixth to the twelfth month, he should gain at the rate of a pound a month, or three and two-thirds ounces a week, so that at the end of a year he will have trebled his original weight.

The normal increase in weight of the child is the best general index of its physical condition. For often a large child with fat, flabby flesh will weigh less than a smaller child, with firm bones and solid and substantial flesh.

The mother, therefore, will find it extremely helpful to weigh her baby at least once a week during the first year. Of course, the experienced mother can judge fairly accurately as to the development and the increase



Type of weighing scale.

WEIGHT, GROWTH AND DEVELOPMENT

in weight of her baby without resorting to frequent weighings, but to those who are rearing their first baby this routine is a necessity.

Even healthy babies do not gain in weight without interruption during the first year. It is well to remember this important fact. For during the extremely hot weather, or in some instances during the period of teething, there may be periods during which little or no gain in weight is made.

A gain in weight does not always mean that the child is developing in all other respects as it should. For there must also be a gain in strength, and indications of mental development.

HEIGHT

It may be well to remember that the average length of the new-born baby being about 21 inches, the average increase in height during the first year should be $8\frac{1}{2}$ inches. During the second year there should be an additional growth of about 4 inches.

Dr. Holt has prepared the following helpful table:

AGE	WEIGHT	HEIGHT	CHEST	HEAD GIRTH
At Birth.....	7 $\frac{1}{2}$ Lbs.	20 $\frac{1}{2}$ In.	13 $\frac{1}{2}$ In.	14 In.
One Year....	21 Lbs.	29 In.	18 In.	18 In.
Two Years...	27 Lbs.	32 In.	19 In.	19 In.
Three Years..	32 Lbs.	35 In.	20 In.	19 $\frac{1}{4}$ In.
Four Years...	36 Lbs.	38 In.	20 $\frac{3}{4}$ In.	19 $\frac{3}{4}$ In.

These weights are without clothes. The weight of girls is on the average about one pound less than that of boys, although they are of about the same height.

THINGS TO REMEMBER ABOUT BABY'S DEVELOPMENT

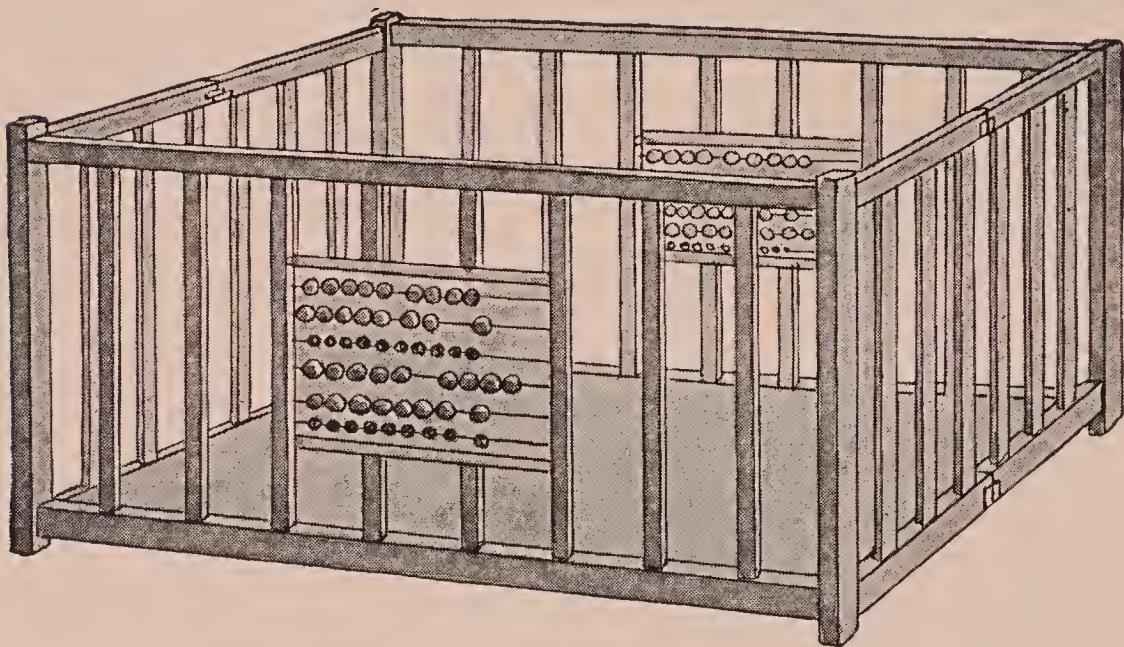
The child should begin to hold up its head from the third to the fourth month, although naturally the

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body should be well supported to enable the child to do so.

The first hair of the child frequently comes out after about a month and new hair grows in its place. This new hair is quite generally of a much lighter hue than the hair it replaces.

Most babies' eyes are dark blue at birth. They change to their permanent color during the first month.



The baby pen, a safe playground for baby during his crawling stage.

At first the baby can only distinguish between light and darkness. At about seven weeks of age the eyes begin to co-ordinate, and the baby seems to be able to notice things more or less intelligently. In about three months a normal child should be able to recognize those with whom it is brought into familiar contact.

It is quite likely that the new-born baby is deaf. However, the function of the ear is very rapidly developed, so that the baby begins to notice noises after a very

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short time, although the sense of the direction of these sounds does not develop till much later.

The new-born baby has, as a rule, very little saliva. This quantity rapidly increases, however, so much so that during the third month there is usually quite a good deal of drooling.

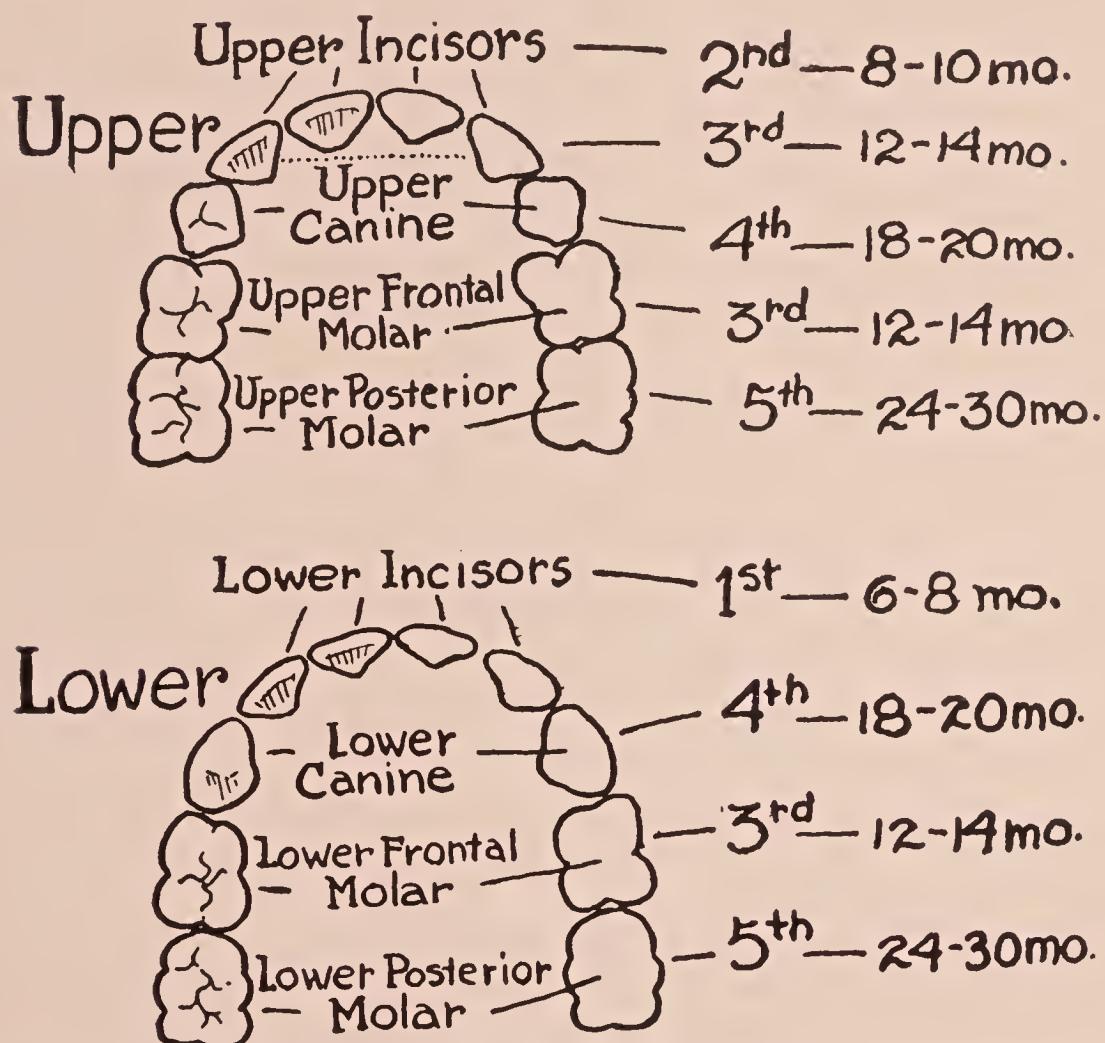


Diagram showing temporary or "milk" teeth, and order of their appearance.

The color of the baby's skin at birth varies greatly. Dark-skinned children are usually not so brightly pink at birth as are the light-skinned children.

During the first few days of baby's life it sometimes

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develops a jaundiced appearance. Some physicians maintain that this is due to cutting the cord too soon; others claim that a tight binding of the belly-band may produce this result.

While the average baby is born with a fairly liberal coating of fine soft hair over its body this usually soon disappears.

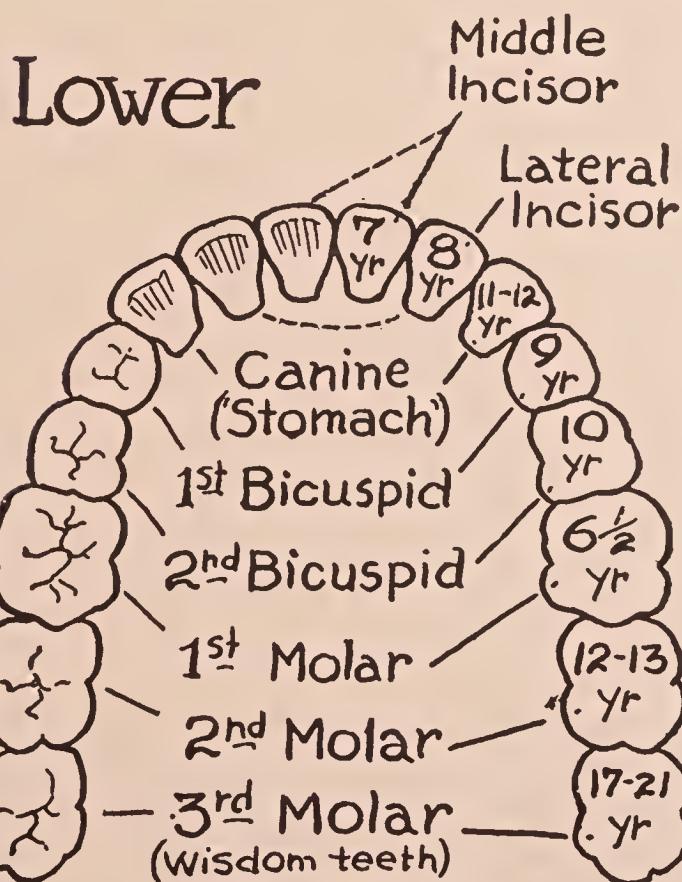
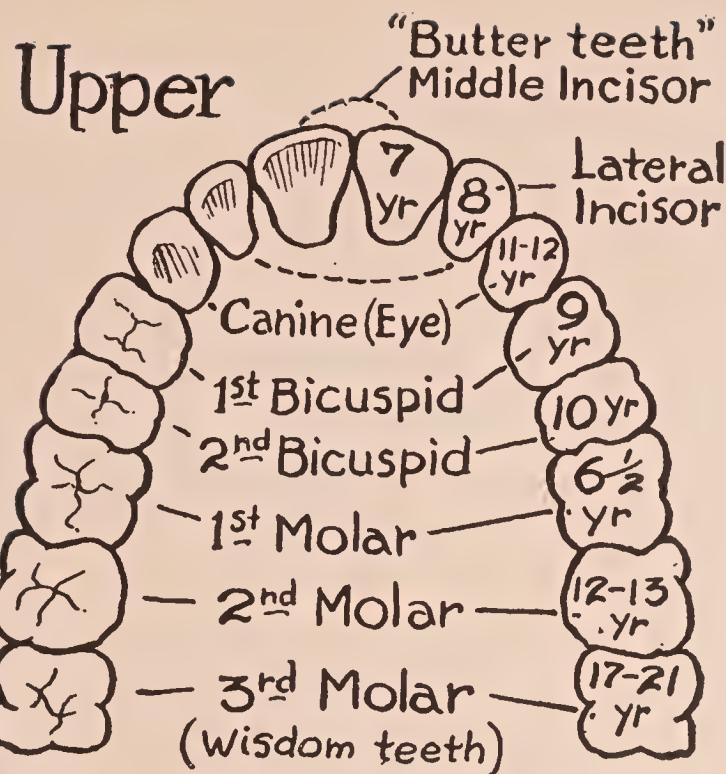
A new-born baby does not usually perspire, but begins to do so, as a rule, after the first month.

Baby usually starts to reach for playthings at about five months of age. During the seventh or eighth month he is usually able to sit up, and at about the same age he begins to creep.

Normal children attempt to stand alone at about the ninth or tenth month. Healthy children can usually stand at eleven or twelve months.

The weight and size of the child have much to do with its ability to walk at an early age. Walking ability usually develops, however, from the twelfth to the sixteenth month, although if the child does not walk until the fifteenth to the eighteenth month, it is really quite early enough. Many children do not learn to walk until after they are two years of age, and yet may be perfectly healthy. However, if there should be too great delay in the matter of walking, strong suspicion as to the normal development of the child is justified.

As every mother will have observed, when babies fall during their early efforts at learning to walk, they almost invariably fall backwards into a sitting position. This is owing to the fact that the muscles in the front part of the thigh and leg are considerably weaker than those in the back part.



The permanent teeth—diagram indicating the ages at which they appear.

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It is a fact, also, that practically every child naturally walks pigeon-toed.

WHEN DOES A CHILD LEARN TO TALK?

Bright children begin to say words as early as the eleventh month, although it is unusual for a child to form sentences until he is two years old, or over.

Many mothers are deluded into thinking that the little cooing sounds, expressing comfort and happiness in the child, indicate oratorical ability. But this is a delusion prompted by love.

At the age of six months, or thereabouts, the baby usually commences to make different vowel sounds, especially that of "ah." A little later, it learns to join these with such consonants as "B," "D," "P," "N," "M," and "J," as these are the easiest to shape.

When the baby says "Ma-Ma," it may be stated that he is more interested in food or drink than in his mother, although at the age of ten months, or a year, he can very distinctly say "Ma-Ma" and "Pa-Pa," and possibly some other words, with an appreciative understanding of what the words mean.

The smile of a baby may develop at a very early age. In point of fact, many children of a month show their pleasure by smiling. Generally, however, the baby does not actually laugh until it is five or six months of age, and sometimes older.

WHEN DO THE TEETH APPEAR?

While some children have been known to have a first tooth even at birth, or even to be born with a full set of teeth, the average time that the first tooth makes its appearance is the seventh month.

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Dr. Richard M. Smith, of Harvard, in "The Baby's First Two Years," gives the following table showing the average order in which the first set of twenty teeth appear.

- 5- 8 months, the two lower middle incisors.
- 8-10 months, the four upper incisors.
- 10-11 months, the two lower lateral incisors.
- 12-15 months, the four upper and lower forward molars.
- 18-20 months, the four canines, the "Eye" and "Stomach" teeth.
- 24-30 months, the four posterior molars.

Therefore, at one year a child ordinarily has six teeth; at one and a half years, twelve teeth; at two years, sixteen teeth; at two and one-half years, twenty teeth.

While the time of appearance of the teeth varies in different children, in all conditions in which there is a deficiency in lime salts, late dentition is the rule. This late dentition may also be manifested as a result of prolonged anemia, rickets which results from deficiency of mineral salts or vitamines, or other severe nutritional disorders.

WHEN BABY FIRST SITS UP

After the seventh or eighth month, the healthy baby is quite generally able to sit up and support his own body. At the ninth or tenth month he may make attempts to support his weight on his own feet; while at a year or thereabouts, he should, if healthy and normal, be able to stand alone, after which he will gradually develop

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locomotive ability. At fifteen or sixteen months, he will usually be able to walk without assistance.

There should be no undue haste about encouraging a child to walk. Therefore none of the contrivances recommended to help teach a child to walk should have a place in your home. If he is able, he will do it of his own accord. And if he is not, he may develop "bow-legs" from too early use of these members.

There is no material gain in bringing about a precocious development of a child, either physically or mentally. Aid your child to get a normal, firm foothold upon life, and when this is assured you can be certain that growth and development will be natural and sufficient.

CHAPTER XIV

Physical Culture in Infancy

“Warm and rippling sunshine thrills me
Through and through,
While tumbling about in the clear, fresh air
Keeps me happy, too.”

FROM earliest infancy, baby's daily outing should be considered as of no less importance than food, sleep, or bathing. It should be taken regularly at the same hour, and if the weather interferes, the windows of the nursery should be opened, and the baby's wraps put on as if he were going out in reality.

THE BEST TIME FOR THE MORNING AIRING

The best time for the morning airing is between half past ten and noon, when the needed warmth and sunshine can be obtained.

After baby has breakfasted, napped and bathed, he is ready to enjoy his outing, and when it is over he will be ready to take his midday meal with a relish such as no little one can possibly know who is cooped indoors from morning until night.

It is well, if it can be arranged, that the airing be repeated in the afternoon. In fact baby should live in the open air as much as possible. In the city, or in cases where the sole care of the infant devolves upon a mother who has her household duties to attend to in addition, it is not always an easy matter to do this. But she should, if possible, sacrifice other things for this all-

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important duty, as the good accruing from it to her offspring will repay her a thousandfold.

If the home has a veranda or balcony, the child should live practically out of doors when the weather permits. This will encourage him to grow and thrive at an amazing rate. The white, puny babies that we so constantly meet are the result of air starvation as much as anything else.

THE HEALTH-GIVING AIR AND SUN BATH

Having dwelt at some length on the efficacy of pure air, water and proper diet, I now wish to call special attention to the incalculable benefits to be derived from the air bath, or better still, the sun and air bath.

If your habitation and environment permit of your being bountifully supplied with sunshine, it should literally permeate your little one's being, and in due course of time, you will be the possessor of a baby with a "sunny disposition."

What mother has not remarked baby's unbounded delight when his clothes are removed, and he is permitted to revel in the sun, to stretch his unhampered limbs while he kicks and crows with sheer joy?

No better place for this air and sun bath can be found for the very young infant than mother's bed, if it is a double one, with a good spring and mattress. On this bed you may place a rubber sheet, covered with a cotton sheet, pinned down firmly at the four corners.

Thus, provided against accidents, and being entirely nude, and not even hampered by a napkin (for be the latter ever so small and snug it is bound to hinder his enjoyment to a greater or lesser degree), baby will begin



Ready for the daily air bath and exercise.

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a sunshine frolic. The windows should be closed at first, the room well ventilated, as always, and the temperature from 80 to 85 degrees.

Begin with an exposure of but a few moments, so that there may be no fatigue or sunburn, and increase the time daily.

LET IN THE AIR GRADUALLY

If the weather is mild open the windows a trifle, and enlarge the opened space daily until baby has unconsciously acquired the fresh-air habit, to which we sincerely hope he is to be an ardent devotee throughout his entire life.

As baby gets older, a mattress placed upon the floor gives him still greater freedom and admits of no danger of a fall.

The baby's unhampered kicking and tossing during these baths will give him all the exercise he needs for a while, particularly if you have accustomed him to the face-downward position ; but by degrees you may teach him other movements.

Froebel, the father of the kindergarten, tells us that the first movement to be taught a baby should be one suggesting freedom of action, and that it should be taught in much the same way that the mother bird teaches her young to fly. The birdlings are gently thrust from a bough, at some safe height, and allowed to flutter gently through space, experiencing for the first time that joyous sensation of independence which is not only a delight but the source from which self-reliance springs.

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THE FIRST EXERCISE

Something of the same sort may be done with the baby, by taking hold of his thumbs, raising him from his back to a half-sitting position, then gently releasing your hold and allowing him to drop back on the bed. At first he may exhibit astonishment, or alarm, or fear, or perhaps injured innocence. But after repeating the action several times, he will begin to beam with delight. If your bed has a good spring in it, he may rebound a bit at each drop. This affords him pleasure, as well as healthful exercise.

Be careful, however, never to allow him to become wearied with his exertions. Give him only a few moments of the exercise to begin with. Later he will learn to anticipate and long for it, and in an amazingly short time he will, when lying unattended on his bed, exercise himself in an interesting and surprising way.

Baby will undoubtedly warm up with this play work, but should he for some reason of backwardness fail to do so, give him a good brisk rub for a minute or two before he dons his clothes, or before he is tucked into bed.

The only time at which these exercises should not be given is just after he has been fed.

As the child grows older the combination romp and sun bath may be extended to a period of several hours. This is particularly important if you live in the city where the child has no opportunity for outdoor play.

If you are fortunate enough to be the occupant of a house, go up to the attic, on bright mornings, and throw open the windows so that sunshine and fresh air may fill the room. If you are in a flat, roll the shades as high as possible in the sunniest room, and open the windows



BABY'S FIRST EXERCISE.

First position. Raise baby to sitting position; then gently release your hold (see next illustration).



BABY'S FIRST EXERCISE.

Second position. On releasing your hold, baby will drop back on pillow. At first he may exhibit fear or injured innocence, but after a few attempts he will beam with delight.

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wide. Bring the little one in, strip off all his clothing, and let him play, with the fresh air and the sun's rays directly on his skin.

Children who stay indoors a great deal are apt to be nervous and irritable. They have unpleasant dreams, they are troubled with indigestion, and perhaps have no appetite, and are not at any time the happy little mortals that Nature meant them to be. An air and sun bath combined with a romp will tend to correct this, and make even a little half invalid, a rosy-cheeked, healthy, joyous youngster.

If thus encouraged, a child will exercise every muscle of its body, while harboring no idea save that of having a jolly time.

If grown people would only copy the spontaneity of youth, if they would only forget for the time the conventionality that holds them down and keeps them from doing that which they are naturally prompted to do, they would win back much of the grace of childhood.

WHY BABIES ARE MORE GRACEFUL THAN GROWN-UPS

It is a remarkable fact that all the animals in the world, except the human kind, are more graceful in movement and beautiful in body when mature than in early life, but with human beings there is less ease of movement and beauty of form in the full-grown person than in the undeveloped child. In other words, we are educated away from, instead of toward, physical perfection. This passing of physical charms should not be. It is one of the terribly destructive results of the abnormal conditions of our environments, and can be largely



Exercise 2. Flex arms of the baby, alternating right and left, and bringing hands up as close as possible to the shoulders.

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prevented by proper attention to physical culture in infancy and childhood.

OVERCOMING NERVOUSNESS WITH SUNLIGHT AND FRESH AIR

The effect of sun and air on the nervous system is more marked than can well be explained. Probably the effect of clothing is greater than we realize. Anyway, a free supply of light and air will relieve nervous tension when nothing else will. May we not suppose that the direct sunshine which is quite necessary for the perfect growth of plants, is also necessary for the best development of human beings?

A further effect of air and sunshine on the human body is to stimulate the eliminating glands in the skin to normal action, regulate circulation and give general tone and strength to the entire system. It also stimulates the terminals of those nerves which regulate the production of heat in the body.

This wonderful heat-generating function of the human body is normally so regulated that during changes in temperature corresponding changes take place, within certain limits, in the body, causing its temperature to remain the same. But because we live in overheated houses, and wear too many clothes, this power has been lost to such an extent that most of us cannot comfortably endure changes of temperature.

There is no doubt that the baby's resistance to all forms of infantile disorders could be very largely augmented by rational methods of physical culture, and there is no doubt that sun and air baths are among the most valuable of these influences. They have a normal



Exercise 3. From position at shoulders bring arms downward to sides.

Exercise 4. From same position raise arms upward above head. Baby may resist movement, which will result in the more vigorous exercise of his muscles. Never be rough nor use undue force.

HOW TO RAISE THE BABY

“hardening” effect upon the child, which enables it to resist illness and discomforts.

HOW AIR BATHS HELP OVERCOME COLDS

A child who is subject to colds and sore throat in fall, winter and spring should be treated for this condition in summer by means of sun and air baths. The system may be put in such condition that a perfect response to changes of temperature will be induced. Then there need be no fear of colds, and the child may play out of doors all the year round in all kinds of weather.

The great value of the air bath is now beginning to be recognized by parents who are giving thought to the health and strength of their offspring. If introduced into the daily life of the child, no matter at what period, it will favor the development of a strong, firm skin, capable of withstanding sudden changes of temperature from one year's end to the other.

Dr. Charles E. Page, of Boston, says that nakedness and the movements of the four-footed animal, rather than those of the upright human animal, are the proper conditions for a young baby. Of course most quadrupeds are covered with fur or hair, but Dr. Page points out that the hairless animals go equally naked, and are more long-lived than the fur-bearing species. The longest-lived of all are elephants, quite hairless. The mammoth, which was heavily covered with hair, became extinct.

“Babies are truly four-legged animals, the same as kittens,” says Dr. Page, “and if given the same chance for exercise, will develop similarly, growing perfectly supple and strong. Placed face downward, they creep



Exercise 5. From position at chest, bring arms outward at side.

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about the house, instead of growing fat, soft and ill-conditioned, and are not apt to die early in life.

“A baby in embryo and at birth is nothing less than a quadruped, as the construction and position of the pelvic organs of adults prove. The pelvic organs should rest on the floor, the floor acting as the abdominal wall, instead of hanging as they do when erect. Erectness means a sagging of the intestines, in combination with weak and flabby abdominal muscles, and becomes the chief cause for hernia and floating kidneys, as well as a number of pelvic inflammations, kidney disorders and backaches.

“Only man among mammals sits, which causes a sagging of his intestinal organs; in bearing the weight of the body on the base of the spine, he inevitably embarrasses the normal action of the nerves and circulation from the trunk to the lower limbs, thereby causing congestion and often complete and permanent compression in some part of the sympathetic nerve system.”

HOW TO PREVENT SAGGING OF THE INTERNAL ORGANS

“Naturally enough, the earlier in life the abnormal position of sitting is adopted and the more continually it is practiced, the more serious the later results must be. It is all wrong for mothers or others to hold babies on their laps in a sitting position. A baby should always be held face down.

“Another serious menace to the lives of babes is over-clothing. Mothers or attendants fearfully overclothe them, with fold after fold of flannel, and wraps over wraps, until the skin, infinitely porous and a true respiratory organ, thus bandaged tightly, ceases to



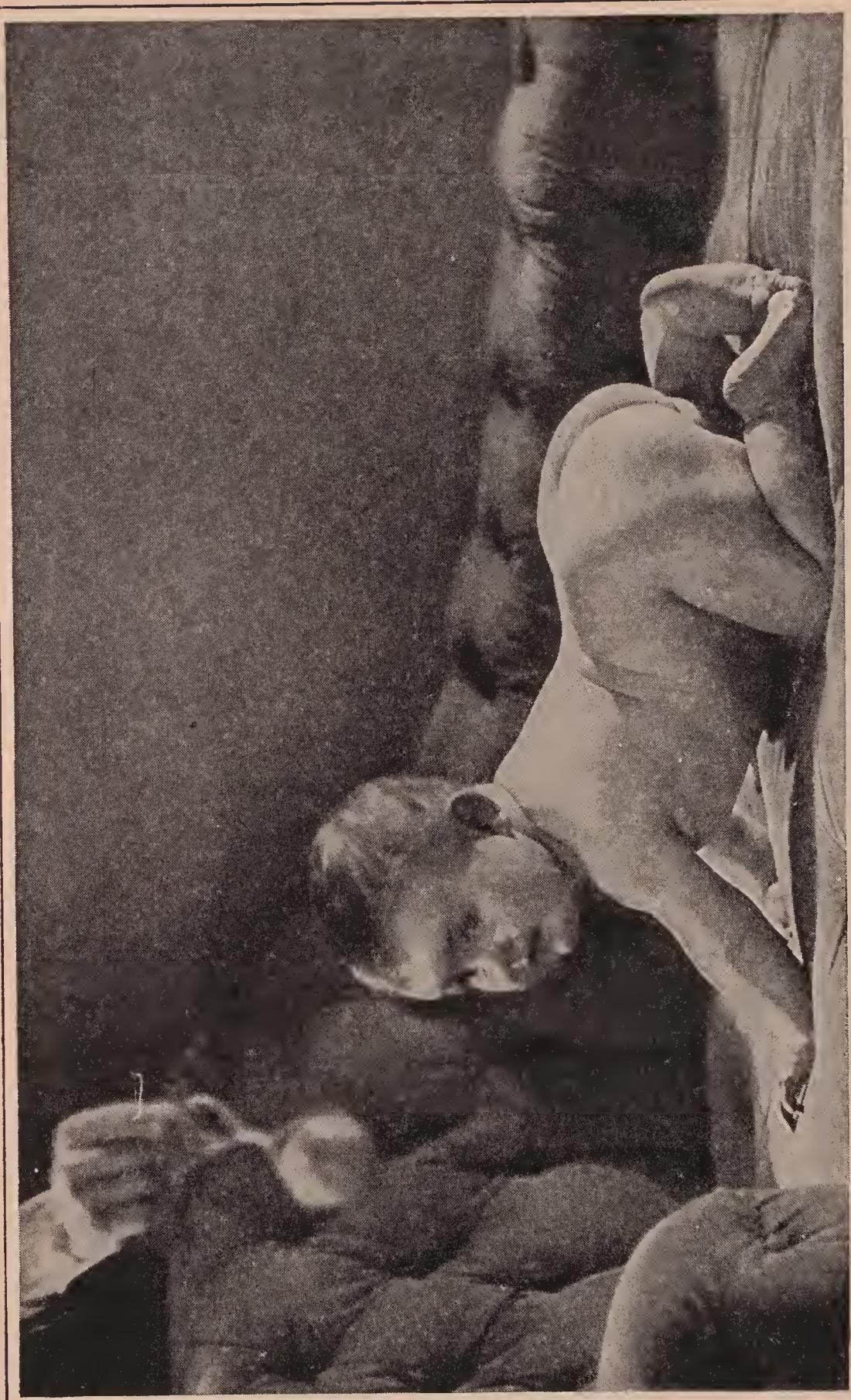
Exercise 6. Let baby reach for some toy far to one side, straight upward and overhead and to the other side; also swing the toy across the body and down toward the feet and let baby reach for it in all positions. A good exercise for most of the muscles, especially those of the abdomen, sides, chest and shoulders.



Exercise 7. When the child is in a playful mood it will be easy to get it to kick up at your hands with one foot or both. This greatly strengthens the abdominal corset.



Exercise 8. Swing a bright-colored toy from side to side just out of baby's reach, and let baby try to grasp it. It may also be swung from far forward to overhead, so the child will look straight up. Even a circular motion overhead may be made. Excellent for developing neck, back, shoulders and chest.



Exercise 9. Jingle the toy to one side and then to the other, and swing it across from side to side overhead and somewhat in front of the child. If he can be induced to reach for the toy the benefits may be increased. This exercise is excellent for the neck, shoulders, arms, back, hips, legs and abdomen of the baby—in fact, for almost the entire body.

PHYSICAL CULTURE IN INFANCY

breathe, and baby smothers. The capillary blood-vessels are unable to excrete carbonic-acid gas or to absorb oxygen.

“During the first ten or twelve years, children should go barefooted indoors, and as much as possible outdoors, particularly during the warm months. Indoors they should go naked as much as possible, and outdoors as scantily clad as possible.”



Exercise 10. The bright or jingling toy is held back of the child and somewhat to one side. It may be swung across to the other side directly overhead, or somewhat in front or even to the rear of the child's head, but always within the range of vision. Good for neck, back and abdominal muscles.

HOW TO RAISE THE BABY

WHAT PHYSICAL CULTURE EXERCISE CONSISTS OF

There is a great deal of general misconception as to just what constitutes physical culture exercise.

As I conceive it, physical culture exercise, whether for infants or adults, consists not of haphazard motions of the limbs and body, but of movements each of which is for the purpose of strengthening a specific muscle or group of muscles.

In the case of babies, the system is modified to meet the special needs of their gelatinous muscles, soft bones and relatively weak ligaments, so that the most timid



Exercise 11. Excellent for strengthening baby's entire spine, from neck to hips. A toy or object that attracts baby's attention is held high and to one side, and swung to the opposite side so that baby's head turns completely from side to side. Continue for a few movements or as long as baby will watch.

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of parents can use it without fear of its harming their little ones.

GIVE THE CHILD A CHANCE TO KICK AND SQUIRM

Thanks to Nature, the desire for activity in a child is too strong to be curbed. By kicking and squirming, and swinging his arms, he gradually gains enough strength to crawl.

After indulging in the delight of this new-found freedom for a while, and after repeated experiments in the art of balancing, sufficient strength and skill are acquired to walk.

Every child practices physical culture, and in the proportion that children are encouraged in their natural desire for exercise, so will they improve in health, strength, symmetry and beauty of body.

MOST CHILDREN POSSESS WELL-SHAPED BODIES

There are but few children between the ages of, say one and eight or ten years of age, who do not possess well-shaped bodies. They have nothing else to do but to play, and there is no better physical culture than active play.

If you have a child who is not able to find companions of his own age ready and willing to run, wrestle, jump, push and pull, it is your duty to become a child yourself, and thus give its little body the exercise so necessary to its development.

NUDE PHOTOGRAPHS TO SHOW THE DEVELOPMENT OF YOUR CHILD

One of the best ways to determine the development of the physique of your child is to keep a series of nude

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photographs taken at three or four months' intervals. As every mother knows, there is a very definite amount of "disguise" in the sometimes voluminous garments that young children wear.

Therefore, in order to note the development of the entire body, and especially of the thorax, nothing could be better than to pose the little one "in the altogether," carefully marking each photograph with the date on which it is taken.

A series of comparative photographs of this nature will constitute the surest possible index as to the normal progress of your child toward rugged, beautiful maturity, and will besides be a source of pleasure to yourself and your friends. Even the most prudish cannot refuse to admire a nude child body, a combination of the physically perfect with the morally untainted.

CHAPTER XV

Baby's First Steps

“How careful should the parents be
The better part to choose,
Since e'en the baby in the house
Is walking in their shoes.”

WHEN the time comes that baby, tiring of scrambling and creeping, attempts to toddle across the room on a couple of very uncertain legs, his mother must exercise great caution lest the efforts of the child work him irreparable harm. Do not, as you wish for beautiful, straight, well-developed limbs, try to hurry or urge baby to stand or to walk before he is fully prepared by Nature with the means to the end in question.

Remember that his bones are as yet soft and yielding, and if he be allowed too soon to put the weight of his body upon them, just so surely will they yield to that weight, and become hoop-like, or “bowed,” instead of straight and perfect members, as Nature intended them to be.

TO PREVENT “BOW-LEGS”

So will baby carry through life a deformity which will surely be a constant rebuke to his mother on the score of either her neglect or her vanity, the one equalling the other in its disastrous consequences. She may have failed to check his locomotive precocity, or, through motherly false pride have encouraged him to walk at too early an age. I beg of you not to rob your child thus of his right to comeliness, and so cast a shadow over his maturity. In later years no reproach

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may ever fall from his lips, but do not doubt that, although his love for you may prompt him to suffer in silence, the sting of his misshaping will rankle in his soul throughout life.

Exercise his little legs regularly and perseveringly, but never permit him to bear his full weight upon them all at once. Let the pressure upon them be very gradual, and allow weeks or months to pass before he really walks unaided.

In any event, let the attempt to stand be made on the volition of the baby and not as the result of a suggestion from the mother.

LET HIM DEVELOP HIMSELF

When the wee man tries to lift himself up by the bedpost, the chair, the wall, or mother's knee, let him emulate the example of Robert Bruce and the spider, and through constant effort he will succeed at last. His incidental tumbles will not hurt him a bit, for his little bones are soft and his muscles elastic, so that he practically rebounds unhurt from whatever he lands on.

If the nursery is furnished as simply as has been advised, there will be but few corners to give him ugly knocks and bruises, while his constant exercising will strengthen him and develop his powers of resistance so thoroughly that his little falls will soon be borne with Spartan courage.

What has been said of baby's legs applies equally to his growth in general. Let such growth be slow and sure, so that no power is overtaxed, and each part expands and develops with equalized strength and beauty.

So shall there develop the perfect man.

PART II
After the First Year

CHAPTER XVI

Common Sense in Selecting Foods

“The dun cow’s milk is in thy cup—
 Rest, little one, rest;
Thou mayst drink when the morning star is up—
 Rest, little one, rest.”

—*Mary F. Butts.*

THE correct feeding of children is based on principles which are in some ways quite different from those governing the feeding of adults. These distinctions are due chiefly to the fact that the children grow, while adults do not.

This fact of growth is exceedingly important and must never be overlooked. It is a general law of life that the primary business of the young creature is to grow. In some species the growing period is distinctly marked off from the period of maturity. For instance, young bees, the larvæ as they are called, are fed on “bee-bread” made from the pollen of the flowers, and rich in protein. When they have gone through the transformation stage and come out as adult insects, they cease entirely to eat their former food; in fact, they are incapable of doing so. The adult bee lives on honey, which is almost wholly a fuel food. In the case of some insects whose adult life is briefer, no food whatever is taken during this period.

In the higher animals there is no such sharp line of demarcation between the period of growth and that of maturity; but the nutritional laws which apply to these periods in insect life are also applicable, to a certain extent, to the higher species.

HOW TO RAISE THE BABY

CHILDREN LOSE HEAT FASTER THAN ADULTS

In addition to the growth factor, there are certain other differences between childhood and maturity. The body of a child being smaller than that of the adult, its surface is greater in proportion to its weight, and therefore the loss of heat through radiation is proportionately greater. The pulse in childhood is more rapid, and the speed of the general physiological activities is greater. These facts, together with the fact of growth, make it necessary for the child to consume more food in proportion to its weight than the adult. In fact, this ratio of food consumption to weight is three times as great for a young child as for the adult.

A further distinction between childhood and maturity, and one that is made even greater by conditions of civilization, is that the child is physically more active. In fact, the normal, healthy child, given proper facilities for play, prefers to be physically active during all its waking hours.

CHILDREN REQUIRE FOOD OFTENER THAN ADULTS

Because of their smaller bodies, greater physiological activity and larger nutritive requirements, children need food more frequently than adults. The conventional three-meals-a-day schedule often means too frequent eating for the adult, but is usually ideal for the child.

Children are frequently under-nourished. Among the poorer classes this is, of course, often due to an insufficient supply of food, but among both the poor and the prosperous, it frequently results from an improper selection of food. As with adults, so with children ; they

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may eat plenty and still be underfed. Moreover, they may be fat and still be underfed with those elements essential to health, vitality and proper growth.

MALNUTRITION AND ITS CAUSES

Most alarming facts have recently been brought to light in regard to this question of the proper nourishment of children. Malnutrition and under-nourishment are the most serious conditions that can affect a growing child, and this crime against childhood is one of the most terrible evils of human society.

For the child it means the stunting of growth, impairment of health and lessened resistance to disease, and particularly encourages a predisposition to tuberculosis. In America today, every seventh child dies before the end of the first year, and two of the remaining six die before reaching maturity—and America is perhaps the best-fed nation in the world.

In some of the poorer districts of our large cities, as many as seventy per cent of the children are found to be suffering from malnutrition. Not so many are actually underfed as are improperly fed. Even in the most fashionable schools in well-to-do neighborhoods, forty per cent of the children have been found suffering from malnutrition. All these children had more than enough food placed before them three times a day, but it was not of the proper quality, or the children did not eat enough, because they were pampered, under-exercised, or their appetites ruined by indulgence in improper foods.

As with infants so with older children, their weight is a fair index to their nutritive condition. Once maturity is reached, there should be little change in body

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weight; but the child constantly growing, should be constantly increasing its weight, and any deviation from the normal rate of increase calls for investigation. Hence the importance of knowing what this rate is in the average case. The following table gives the figures up to the age of nineteen.

AVERAGE RATE OF WEIGHT-INCREASE IN CHILDREN

	BOYS Pounds	GIRLS Pounds
First year.....	13	13
Second year.....	5	5
Third year.....	4½	4½
Fourth year.....	4	4
Fifth year.....	4	4
Sixth year.....	4	4
Seventh year.....	4	4
Eighth year.....	4½	4½
Ninth year.....	5	4½
Tenth year.....	5½	5
Eleventh year.....	5½	6
Twelfth year.....	6	8
Thirteenth year.....	7	11
Fourteenth year.....	9	11
Fifteenth year.....	12	9
Sixteenth year.....	15	6
Seventeenth year.....	11	4
Eighteenth year.....	6	3
Nineteenth year.....	4	2

But the weight does not tell the whole story. If the increase were always that of vital tissue, no further figures would be needed; but children can gain weight without actually growing. Similarly, if past accumulations of fat are being lost, they may grow while their weight is decreasing. It is therefore advisable to have on hand a table of normal average heights and weights in relation to age. Such a table follows.

COMMON SENSE IN SELECTING FOODS

HEIGHT AND WEIGHT TABLE FOR GIRLS

The standard normal weight for a girl is found where the horizontal column opposite her height crosses the vertical column under her age.* Illustration: The standard weight for a girl 50 inches high and 9 years old is 59 pounds.

HEIGHT INCHES	5 YRS.	6 YRS.	7 YRS.	8 YRS.	9 YRS.	10 YRS.	11 YRS.	12 YRS.	13 YRS.	14 YRS.	15 YRS.	16 YRS.	17 YRS.	18 YRS.
39	34	35												
40	35	37	38											
41	39	39	40											
42	41	42	42											
43	43	44	44	44										
44	45	46	46	46										
45	...	47	47	47										
46	...	48	49	50	52									
47	...	49	50	51	53									
48	...	52	53	54	55									
49	...	54	55	56	57									
50	...	...	57	59	60	60								
51	...	...	60	61	62	63								
52	...	...	63	65	66	67	67							
53	...	...	...	68	68	68	69							
54	...	...	...	71	70	71	71	72						
55	...	...	...	...	73	72	73	74	75					
56	...	...	...	...	77	76	77	77	79					
57	...	...	...	...	81	79	79	82	85	88				
58	...	...	...	...	...	83	85	88	89	94	96			
59	...	...	...	...	...	...	89	94	94	99	100	102		
60	...	...	...	...	...	...	93	99	99	103	105	107		
61	...	...	...	...	...	...	...	102	103	106	109	110	112	
62	...	...	...	...	...	...	...	107	107	110	112	113	115	
63	...	...	...	...	...	...	...	...	110	114	115	116	118	
64	...	...	...	...	...	...	...	...	...	118	120	121	123	
65	...	...	...	...	...	...	...	...	...	...	124	126	128	
66	...	...	...	...	...	...	...	...	...	...	127	129	130	

*Note—The age is taken at the nearest birthday.

Only scales with bar and weights should be used. Spring scales with dial face are not very durable and are likely to get out of order soon.

Measurements for height should be taken with the child standing with feet close together and close against the measuring rod, or a measuring tape may be tacked against a wall and a book placed on the child's head, edgewise, to mark his height.

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HEIGHT AND WEIGHT TABLE FOR BOYS

The standard or normal weight for a boy is found where the horizontal column opposite his height crosses the vertical column under his age. Illustration: The standard weight for a boy 57 inches high and 13 years old is 83 pounds.

HEIGHT INCHES	5 YRS.	6 YRS.	7 YRS.	8 YRS.	9 YRS.	10 YRS.	11 YRS.	12 YRS.	13 YRS.	14 YRS.	15 YRS.	16 YRS.	17 YRS.	18 YRS.
39	35	36												
40	37	38												
41	39	40	41											
42	41	42	43											
43	43	44	44	46										
44	45	45	46	47										
45	47	47	47	48										
46	...	49	50	51	52									
47	...	51	52	53	54									
48	...	53	54	55	55									
49	...	56	57	57	57	57								
50	...	57	58	59	59	59								
51	...	60	61	62	62	62								
52	...	63	64	65	65	65								
53	...	66	67	68	68	68	68							
54	...	70	71	71	71	71	72							
55	...	73	74	75	75	76	76	76						
56	...	77	77	79	79	79	80	80						
57	...	80	81	82	83	83	84	84						
58	...	83	84	85	85	87	87	88						
59	...	87	88	89	89	91	91	92						
60	...	89	91	92	92	94	94	95						
61	...	95	97	99	99	102	102	104	104					
62	...	98	102	104	104	107	107	109	109					
63	...	106	108	112	112	114	114	116	116					
64	...	112	115	117	117	119	119	121	121	123				
65	...	120	122	124	124	125	125	127	127					
66	...	124	127	129	129	131	131	133	133					
67	...	131	133	135	135	137	137	139	139	141				
68	...	135	137	139	140	142	142	144	144					
69	...	139	140	142	144	146	146	148	148					
70	...	144	146	148	150	152	152	154	154					
71	...	148	150	151	154	157	157	159	159					
72	...	151	154	151	154	157	157	159	159					
73	...	159	162	159	162	162	162	162	162					

COMMON SENSE IN SELECTING FOODS

CHILDREN CRAVE VARIETY IN THEIR DIET

The children need a variety of natural foods; they tire quickly of the monotonous and prescribed diets. A child is usually told to eat what is set before him. Hence if he does not like this particular food, he does not eat enough, or makes up the deficiency by a raid on the jam pots, or a trip to the candy store. A child has a right to say something regarding the selection and preparation of his food.

Many parents will resent this statement, on the ground that the child's ignorance renders him incapable of deciding such a matter. But a parent should remember that a child's appetite is guided, if the child be normal, by the needs of its body. The parent should by all means select the child's food, and try to train him in his likes and dislikes if his appetite seems abnormal; but the child should never be forced to eat food that is distasteful. Too often he will go hungry if this is attempted.

One can err either by acceding to an acquired taste for deficient foods, or by attempting to force the child to eat foods for which he has no appetite. The problem is one that requires tact and patience, as well as intelligence. The solution may usually be found in the use of menus that offer a goodly number of natural and wholesome foods, a sufficient proportion of which the child has learned to eat with relish.

BASICALLY IMPORTANT FOODS

There are a few foods, of course, which are so basically important that they cannot be omitted from the diet. First among these is milk, which should form the

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bulk of the diet up to ten years, or better still up to the twentieth year. This food is the child's chief dependence for the protein which builds its muscles and other soft tissues, the calcium for bone formation and the protective vitamines, though it must be remembered that milk is not needed with full, hearty meals, in which a large variety of other wholesome food has been furnished. Use milk only with "light" meals, composed preferably of sweet fruits.

The leafy vegetables are not so important to the child as they are to the adult; they should not, however, be neglected in the child's diet. The practice of giving children well-cooked spinach as soon as they are able to masticate it well has been widely adopted, and with excellent results in the case of such children as are below their normal nutritive condition. The spinach should be steamed rather than boiled, since it loses less mineral salts in steaming. Feeding spinach juice may be begun at the age of one year, if the child is not thriving. A tablespoonful a day may be given at this age, and the amount may be gradually increased if the child learns to like it.

Tender salads with simple dressings should form part of the diet. Cooked greens, especially cooked cabbage, are not so digestible. The tender leaves of raw cabbage can be especially commended and should come later.

PLenty of fruit

Fruit, as well as vegetables, should be plentifully used in the child's diet. Oranges or other acid fruit should be given daily. Prune pulp and apple sauce

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may be added at quite an early age. As soon as the child has learned to chew his food carefully, the sweet fruits, preferably raisins, or Persian dates, may be freely given him, and should be used to replace store candies.

Nuts, which require very thorough mastication and are not very easy to digest, should be added to the diet gradually, from the fifth to the tenth year. They should always be served as part of the meal, not as tidbits after it, as they are highly concentrated.

The chief reliance for much of the fuel foods required by the child must necessarily be the natural cereals. These are also useful for the prevention of constipation.

The meals should be limited to three a day, and the baneful practice of "piecing" between meals should by all means be avoided. This is one of the principal causes of children's ailments. The stomach needs regular rest, and when it starts to digest it should be allowed to continue the process without interruption by the addition of more food.

There are only two exceptions to this rule. A child that does not seem to be sufficiently nourished can have a glass of milk before retiring and an hour before each meal, and acid fruits, such as oranges, apples, pears, pineapples, peaches, can be taken at almost any time when they are desired, in moderate quantities. The desire for fruits shortly after a meal frequently indicates the need for additional acid to help digest it. Therefore, you can safely follow the instincts of a child in its desire for them.

HOW TO RAISE THE BABY

DON'T ENCOURAGE A CHILD TO EAT BEYOND THE DEMAND OF ITS APPETITE

The appetite should not be "tickled," and a child should not be encouraged to eat beyond its appetite. Many parents are inclined to worry if a child seems to lose its appetite. This should cause no concern whatsoever, for if the dictates of the stomach are followed, it will come back to its "feed" within a reasonable time.

Have no fear whatever that your child will be led into a harmful fast by its natural instinct. Most children of our middle-class families have never, I believe, had the genuine luxury of a real hunger appetite, nor of a health-building, blood-purifying fast. Overzealous parents cater to the capricious appetites that were made abnormal in infancy and all through younger childhood, and give them all they want of harmful dainties and foods that "stick to the ribs," and then forbid them to fast.

One of my usual practices, when a child loses its appetite, is to feed nothing but acid fruit for a day or two. After this, as a rule, a child will keenly enjoy more solid foods.

A still better plan, in many cases, when the appetite has been lost for a few days, is to put the child on an exclusive milk diet, giving it nothing but whole, sweet milk. The milk should be given about every hour during the day and the child allowed to take as much as it may desire at this time. The one-hour interval need not be adhered to too rigidly. If it is stretched to one and a half or two hours, no harm will be done. No other food should be allowed except acid fruit.

Many parents have an idea that a child cannot be

thoroughly nourished on milk. This is a mistake, as milk, with no other food, will nourish a child indefinitely. In fact, an occasional change from solid food to a milk diet is usually beneficial to a child, as it is to an adult.

I have known many cases in which children have been able to gain weight and strength from a milk diet. When a child does not seem to grow satisfactorily, a milk diet given for three or four days, about twice a month, often results in a very material gain.

One of the most helpful publications on the subject of food for children is the Bulletin issued by the Chief of the Office of Home Economics, under the direction of United States Department of Agriculture. It deals with the dietary care of children from two to eight years of age. According to this bulletin a child of the age under consideration should receive every day at least one food from each of the following groups:

1. Milk and dishes made chiefly of milk (most important of the group as regards children's diet); meat, fish, poultry, eggs, and meat substitutes.
2. Bread and other cereal foods.
3. Butter and other wholesome fats.
4. Vegetables and fruits.
5. Simple sweets.

A QUART OF MILK A DAY

All authorities agree that the basis of a child's diet should be clean whole milk, of which it should have about a quart a day. Such milk contains, in addition to water, about half a cupful of the very best food substances—butterfat, milk sugar, lime and other materials needed by the child to make muscle, bones and teeth. In addition, milk contains all of the mysterious vitamines, with-

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out which the other food elements are useless. Clean, fresh skim-milk supplies all of these substances with the exception of the butterfat, and is, of course, preferable to dirty or questionable whole milk. Its deficiencies can be made up from other sources, green vegetables and egg yolks furnishing missing vitamines and part of the fat needed.

Milk, however, contains comparatively little iron. Therefore spinach and other green vegetables and egg yolks, all rich in iron, combine well with milk and should be included in the diet of the older child.

The child will want to take some of his milk "straight." The rest can be given with cereals, and in milk toast, cocoa, milk soups and stews, cereal puddings, egg and milk puddings, custards, junkets, or simple ice creams. Milk stews may be made with vegetables or fish, or, to vary the diet, these things can be combined with cream and served on milk toast. Milk served as a beverage should have the chill taken off.

BREAD AND CEREALS

Well-baked whole-wheat bread and thoroughly cooked breakfast cereals are both good for children, and with milk, should make up a large part of the diet. Bread is, to a certain extent, interchangeable with cereal mushes, but neither can take the place of milk, meat, eggs, fruits and vegetables. An ordinary slice of bread is equal in food value to about half a cupful of boiled or steamed cereal, and about a cupful of puffed cereal.

Yeast-raised bread, unless made from the whole grain, should be at least a day old when given to young children, or should be toasted or twice-baked.

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MEAT, FISH AND EGGS

In some families children do not get enough of the group of foods including meat, fish, and eggs; in others, they get too much. A good general rule is to give a child two years old or over an egg every other day, and about the same amount (two ounces) of meat, fish, or poultry, on the intervening days, though meat itself is never necessary for a child. Where meat is omitted, care must be taken to see that other suitable foods take its place—preferably an extra amount of milk and eggs.

Fried meats should never be given to a child, because they are likely to be overcooked and tough, and also because the fat may be scorched and thus changed in composition. Scorched fat is almost certain to be hurtful to children, or to anyone else, for that matter.

When it is allowed, meat is best given as broiled beef-steak or chop, or in simple meat stews combined with vegetables. Poultry may be roasted and served with rice. Highly seasoned stuffing, or rich gravy, should not be given to a young child.

Fish, dried or fresh, and oysters, may be used in milk stews. Well-baked fish is good for variety. The best way to cook eggs is to poach or coddle them. Scrambled eggs may be served occasionally, provided care is taken not to scorch the fat or to overcook the eggs.

But remember that milk and raw foods are best for insuring steady growth of healthy tissue, and if these are secured in sufficient amounts, meats of all kinds can safely be excluded from the diet.

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FATTY FOODS

Fat is an important part of the food of children. There is more than an ounce of fat (at least $2\frac{1}{2}$ level tablespoonfuls) in a quart of whole milk. If the healthy child is given a quart of milk, has butter on its bread, and meat or an egg once a day, he gets enough fat, and in wholesome form.

It is well, therefore, not to give such fatty foods as pastry, fried meats and vegetables, and doughnuts or rich cakes. If the child is constipated the occasional use of cream or salad oil is desirable, for fat in abundance is laxative.

Bacon, or salt pork, is not desirable, though if cut very thin and carefully cooked, may be given occasionally. It is very important not to burn the fat.

VEGETABLES AND FRUITS

Vegetables and fruits are similar in the fact that both supply iron, lime and other mineral matters, and also mild acids. Vegetables are an important but often a neglected part of the child's diet. They should be served at least once a day, for, besides giving many valuable mineral elements, they help to keep the bowels in good condition.

Fruits are important for their flavoring, for their laxative effects, and doubtless for other reasons, and should be served in some form at least once a day. Fruit juices and the pulp of cooked fruit, baked apples and pears, and stewed prunes, are the safest. Great care should be taken in washing either fruits or vegetables which are to be eaten raw.

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SIMPLE SWEETS

Sugar is a desirable part of the diet of a child, provided it is given in its natural form and not allowed to take the place of other foods or spoil the appetite.

Permissible sweets are dried sweet fruits (as raisins, figs, dates, etc.), honey, maple sugar and syrup, brown sugar and old-fashioned "Orleans" or sorghum syrup—all in small quantities.

Cakes, as ordinarily made, are an abomination, and so also are jams, jellies and preserves. The latter are all prepared with an excess of refined sugar and are boiled to such an extent that the value of the original fruit is destroyed.

Such accessories as spices, pepper, vinegar, mustard, pickles, etc., are never required by children, and are always injurious to them. If their diet is normal, they will not desire them and will require nothing to "give them an appetite."

Use uncooked foods as much as possible.

I believe that the following is one of the best diet lists I have yet devised. It has given me the best results in my sanitarium and in my home experience with children.

DIET FROM WEANING UP TO TWO YEARS

BREAKFAST

Half or whole orange, or some other acid fruit that is enjoyed. Whenever the bowels are very loose this acid fruit should not be used. When constipated, part of the white pulp of the orange peel, or prunes or raisins, are advised.

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Choice of the following cereals: "Krumbles," hominy, whole rice, oatmeal, whole cornmeal, shredded wheat. The cereal can be served as a liquid by making it into a very thin gruel; it should be made with milk and eaten with a spoon like soup. It can be sweetened with brown sugar, if desired, though honey or raisins make a much more satisfactory sweetening.

DINNER

Choice of any one of the following foods: Vegetable soup; one egg prepared in any manner except frying; chopped beef, as in a Salisbury steak, if meat is desired.

With any one of the above foods you can use Graham bread, zwieback, or whole-wheat crackers, baked, boiled, or mashed potatoes, or rice.

A dessert can be made of rice, farina, custard, etc.

SUPPER

Cornmeal, or some other cereal that might be palatable with milk. One egg can be added if a child is very active and is hungry.

Whole-wheat bread, corn bread, or zwieback.

Sweet fruit in small amounts may be added.

If a child over a year old does not seem to be thoroughly nourished on a diet of this kind, a glass of milk may be given before retiring and one hour before each meal, if there is a desire for it.

DIET FROM Two TO SIX YEARS

BREAKFAST

Acid fruit, as may be desired.

Choice of cereals: "Krumbles," shredded wheat, corn-flakes, oatmeal, cornmeal, etc., with milk or top milk.

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DINNER

Rich cream soup of some sort, made of vegetables, beans, peas, barley, etc.

Eggs cooked as desired; or meat, fish or chicken, if such food is desired. Chopped beef (top of round steak) is usually the most wholesome and nourishing kind of meat.

Choice of any vegetable that is especially palatable, such as baked potatoes, carrots, onions, spinach, asparagus, etc.

The dessert may be plain pudding, like rice (unpolished), custard, or blanc-mange, or pies made with a whole-wheat crust.

Raisins, prunes, dates, or any sweet fruit, will be more satisfactory than candy for dessert, but pure candy can be allowed occasionally.

SUPPER

Soup, if desired.

Eggs prepared in any way that may be appetizing, except frying.

Cereal pudding of some sort—rice, farina, cornmeal, etc.; or stewed fruit.

DIET FOR SIX YEARS AND OVER

BREAKFAST

Raw acid fruits as desired, or stewed fruits.

Choice of cereals: Shredded wheat, "Krumbles," oatmeal, cornmeal, etc., served with raisins, dates, figs, or other sweet fruit, instead of sugar.

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DINNER

Any kind of nourishing, appetizing soup.

Eggs prepared in any appetizing manner, except by frying.

Fish, chicken, or meat, if desired.

Any vegetables in season.

Salad: Lettuce, tomato, cabbage, or other green "stuff," is especially important in a child's diet as it becomes less active muscularly.

Dessert: Puddings; pies made with whole-wheat crust; cakes containing a small amount of whole-wheat flour or bran; stewed fruit; custard; or shredded wheat, moistened with milk, sweetened with honey and covered with whipped cream.

SUPPER

Baked apples, or other stewed fruit.

Eggs in any form desired, unless eggs were served at dinner.

Vegetables, with whole-wheat bread and butter.

Milk or cocoa.

Some light dessert if desired.

CHAPTER XVII

Physical Care from the Second to the Eighth Year

'Remember, 'tis not the ancients or their sons
That are the nation's hope, but they of lips
Bedewed with mother's milk, whose feet as yet
Bear not the burdens of their bodies, which
In coming days shall be the state's strong ramparts."

—Burbridge.

THE general hygiene of children embraces plenty of air and sun baths, daily tub baths (cold or blood-heat), careful attention to the diet (as outlined in the preceding chapter) and the proper kind of healthful exercise.

In other pages throughout this volume I have written enthusiastically of the advantages of air and sun baths. But I want to emphasize here still more their value to the health.

Water is a temporary medium for baths, while air is a constant medium. There is far greater benefit to be derived from direct contact of the body with the air than most people imagine. The pale, almost snow-white bodies of children, which some parents seem to be proud of, are the result of their being deprived of air and sunlight, too frequently because of prudishness on the part of the parents and always because of a misunderstanding of Nature and her requirements.

WONDERFUL VALUE OF THE AIR BATH

Every day of the year, regardless of the temperature of the air, the body of a child should be freed from *all*

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clothing and placed where the fresh air can strike it. Disregard drafts of air almost entirely, for it is only when the body is unequally clothed, and is thus unequally exposed to the air, that a draft may produce a disagreeable reaction, such as a cold. If the child romps and plays regularly in the open air, or in a room with the windows wide open, without any clothing, its circulation, particularly that of the skin, will be so active that it will not be sensitive to cold at other times and will be practically immune to catarrh and other affections commonly resulting from exposure.

The more delicate the child the more it needs the air bath, but, naturally, the more prudence must be observed in giving it. Five to thirty minutes, or more, may be given to the bath, depending upon the degree of vitality possessed by the child, and the temperature of the air.

SUNLIGHT NECESSARY FOR PALE CHILDREN AND OTHERS

Still greater benefit will result if the rays of the sun can come in direct contact with the body while the air bath is being taken. The sunshine brings color to the pale, cellar-grown, light-starved leaf. It will also bring color to the pale flesh of the child whose body has been just as effectively starved for light and air by burdensome clothing. Care must be taken to avoid sunburning. The sun baths should be given nude, and daily if possible, and direct—not through glass for real benefit.

It is absolutely essential for the child's present and future health that it have fresh air throughout the entire twenty-four hours of the day. Do not subject it to

risk by allowing it to spend any of its time in places inadequately ventilated.

WATER BATHS INSURE CLEAN, ACTIVE SKIN

And I want to emphasize here, too, the imperative necessity, and the profound health-value, of the daily tub bath for every child. Remember, the skin is one of the great avenues of elimination, acting in concert with the bowels, the kidneys and the lungs to remove from the system the deadly poisons that are being generated almost every moment by the breaking down of cell structure and the disintegration of tissue. Use soap only two or three times weekly, and never use strong soap.

Many mothers may remember the story of the boy who was gilded to represent an angel during a certain ceremonial feast, and who died inside of a few minutes from his own poisons.

Keep your children clean. Keep the mouths of their millions of pores open, so that they may discharge the



The air bath can be enjoyed by the youngsters during the warm months in the out-of-doors while at their play.

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poisonous gases and noxious matters which, if retained, would work them grave injury.

FRICITION BATHS

There is another form of bath that is rarely thought of when baths are being considered. I refer to the friction bath. For improvement of superficial and deep circulation, for either stimulation or soothing effect upon the nerves, and for increasing elimination through the skin, the friction bath is one of the most valuable and potent means available.

The mother can give this friction to the younger children, and teach the older ones to apply it to themselves. The hands alone may be used, or a flesh brush, bath mitten, or coarse towel. A dry bath may be given by any one of these means, or all except the brush may be used to give a water bath.

A friction bath given with the wet hand is an excellent means of exciting a strong reaction, and is especially valuable in colds, catarrh, adenoids, malnutrition and general lack of vitality. The heat and magnetism of the unobstructed hands prevent the cold water being too great a shock, and the friction brings about the desired full reaction.

The friction with a towel or bath mitten which has been wrung from cool or cold water is useful in those cases in which it is not necessary or desirable to establish such decided reaction and increased circulation.

Either one of these forms of friction bath may be given daily; for they do not have any weakening or exhausting tendency, such as an "overdone" tub bath may sometimes have.

CLOTHING

The average mother is inclined unwittingly to stifle the skin activity of her children (as well as of herself) by a superabundance of clothes. The skin is almost as important an organ of breathing as are the lungs, but it is usually obstructed to such an extent that it is not half efficient.

The extra amount of toxins thrown off by the lungs because of skin inactivity irritates the lung tissue, and makes possible such disorders as coughs, colds, asthma, bronchitis, pneumonia, etc.

If the mother were to consult her child concerning the amount of wearing apparel she should put on its body, she would probably find that it would not want to be "bundled up." When the child is too small to know what it wants, the amount of clothing should be little enough so that there can be full action of every muscle and point of the body. Open-mesh clothing is always the best.

Thin underwear should be worn at practically all times, and heavier garments put on when going out into the cold. For the temperature of most homes, even in winter, is that of summer, the season when light garments are worn indoors and out.

In most cases it is not only unnecessary but positively harmful to have the neck, throat and chest encased in heavy mufflers and blanket-like garments, as is the usual custom with children. In extremely cold weather the throat may have a light covering, but in any ordinary temperature it is better without any. The more the child is "coddled" the more frail and susceptible to colds and diseases it will be.

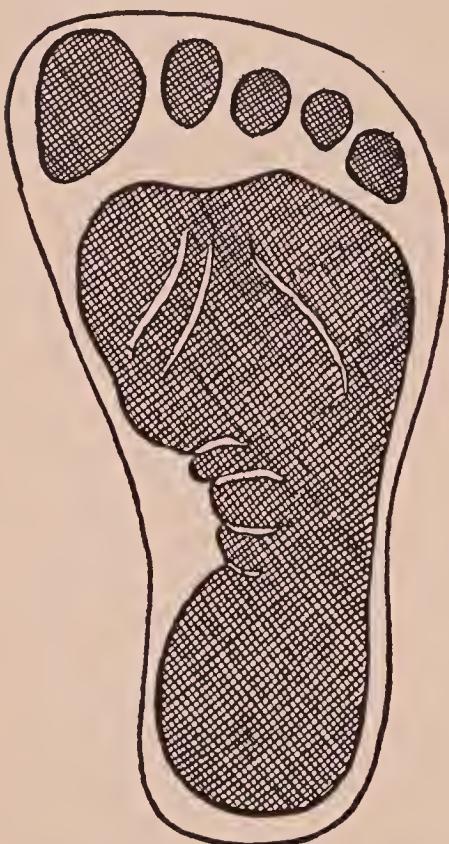
HOW TO RAISE THE BABY

SHOES

Put the foot of your baby or young child on the floor and make an outline of it, and you will see something entirely different from what you would expect if you were judging by the shape of your own shoe, or, probably, from your own more or less malformed foot. If

your child's foot is an average, healthy, normal foot, it will be a little less than half as wide as it is long. This proportion changes somewhat as the child grows older, but always there is a far wider foot than most shoes are made for.

In securing shoes for children care should be taken to have them long enough, as well as wide enough. The inner edge of the shoe should be straight, and the heel should be of the thickness of the sole, or but little thicker. The leather should be soft and flexible, and the sole capable of bending very easily.



Print of right foot with correct shoe outline.

FEET MADE HEALTHY BY GOING BAREFOOT AND WEARING SANDALS

Sandals are the best kind of footwear, and should be worn much more than they are at present. Except during rainy and snowy weather they could, and should,

be worn practically the year round, except that a child should go barefoot in summer.

The average mother in cities and towns never allows her children the luxury of going barefoot. One reason is that she thinks it immodest, and another is that she thinks that going without restricting shoes leads to the development of a larger, wider foot. This is a mistake, for going barefoot can only tend to make the foot normal, as the bones and muscles and ligaments can then develop normally and act in their normal capacities as arches, supports and manipulators of the foot and supporters of the body.

If stockings are of warm material and large enough, the child's feet will be warmer in cold weather in sandals, or soft low shoes, that allow full activity of the foot muscles, than in heavy high shoes that bind and restrict the movements of the feet and ankles.

DEVELOP THE CHILD'S CHEST AND LUNGS

The subject of muscular activity, or exercise, belongs in the general subject of hygiene, but is such an important topic that the entire following chapter has been devoted to it.

Proper play exercise such as is described in this chapter will make a demand for deeper breathing, and no especial attention to this matter will be required in most cases. If mouth-breathing develops or is threatened, the nose should be examined for obstructions. If adenoids are found, give careful treatment as outlined in Chapter **XXIII.**

Children have a natural desire to express their ebullient feelings in vocal terms annoying to their elders

HOW TO RAISE THE BABY

but highly beneficial to the youngsters. They should be permitted to "yell their heads off" at times, and they should be encouraged to sing — or make the attempt. These vocal exercises develop the lungs and help to purify the blood by leading to more complete oxygenization of the blood and neutralization of the body poisons. Besides, singing insures a better, more cheerful frame of mind, and this is valuable to any one.

Development and growth are in-



The author's four little daughters showing their bodily development gained through scientific physical culture. When the photo-



graph was taken, the oldest, Byrnece was over eight, the next, Beulah, nearly seven; Braunda, over five; Beverley, about four.

creased by activity but would not be possible without sufficient rest, relaxation and sleep. These must be allowed and insured, and under the most wholesome conditions possible; otherwise your child's nerves will be weakened and, sooner or later, his entire organism will suffer.

FOOD

Regardless of properly conducted exercise, suitable wearing apparel, care

HOW TO RAISE THE BABY

of the skin and of the body generally, and of sufficient rest and sleep, a child will be in defective health and will be susceptible to the various children's diseases and other disturbances of health unless the *diet* is right. This important subject is treated in the preceding chapter.



Back view of the four Macfadden girls. Photograph taken at the same time as that on pages 208 and 209. These pictures show a condition which all children should approximate if their physical needs receive proper attention.

PHYSICAL CARE FROM SECOND TO EIGHTH YEAR

TEETH IN RELATION TO HEALTH

The care of the mouth and teeth is another important department of child hygiene.

I have already spoken of the care of the gums of the infant, and the need for constant and vigilant attention to the cleanly condition of the oral cavity.

Drs. Bowers and Ryan, in "Teeth and Health," say that few mothers understand the importance of preserving the child's first teeth. Since these teeth are only temporary anyhow, and must eventually be replaced by the second set, or permanent teeth, mothers have been led to believe that they may be neglected with impunity. Thus they may be lost long before the permanent ones appear.

Now, nothing could be more definitely and lastingly harmful to the child than to lose its first teeth before the second teeth are ready to displace them.

WHAT IRREGULAR TEETH MEAN

The second teeth will come in irregularly if the restraining influence of their predecessors is lost, and irregularity once started, always tends to become progressively worse, unless corrected by the orthodontist. This, of course, is destructive of beauty, but it is not for looks alone that it should be sedulously guarded against.

Irregular teeth do not "occlude" properly—that is the grinding surfaces do not come together. Hence there is poor mastication of the food, and consequently a lowered power of digestion and assimilation. Hence again, a general deficiency in the development and "tone" of the entire body.

HOW TO RAISE THE BABY

The bones and muscles of the jaws suffer also from this general malnutrition, and the teeth become even more irregular and lacking in their essential salts, as a consequence. The bones that support the teeth do not grow large enough to accommodate all of them in the normal position.

In some cases the jaw bones are so small that many of the teeth cannot find a place to come through at all, and they remain impacted in the jaw, giving rise in later life to chronic neuralgias, headaches and many grave nervous and physical disorders.

Such a condition may even give rise to that agonizing condition known to doctors as *tic douloureux*. This is characterized by a twitching of the facial muscles on the side affected, accompanied by the most terrible pain known to human beings, with the possible exception of *angina pectoris*. Or it may produce conditions which find their expression in various reflex actions, such as twitching of the muscles and limbs, or even such grave disorders as melancholia.

Again, the normal physiological relations between the mouth and the nose are also affected, causing a profound disturbance in the function of the breathing apparatus, and resulting in the narrowing of the air passages.

HOW MOUTH BREATHING BEGINS

This causes mouth breathing. The air enters the lungs improperly warmed, unfiltered and unmoistened. The blood is insufficiently supplied with oxygen. Shoulders become rounded, chest flat, and faulty positions in standing or sitting are acquired, resulting, in many cases, in spinal curvature.

PHYSICAL CARE FROM SECOND TO EIGHTH YEAR

Most serious of all, the brain does not develop properly, and the mentality of the child suffers.

Also, irregular teeth are kept clean with great difficulty, and the problem of repairing or replacing them later becomes more complex for the dentist.

THE CHIEF CAUSE OF PYORRHEA

This is one reason why pyorrhea, or Rigg's disease, is so often found in mouths with irregular teeth. The gravity of this pyorrheal condition is manifested in later life by the development of headaches, rheumatism, diseases of the heart and blood-vessels, of the kidneys, and even of the eyes.

St. Vitus dance, epilepsy, and even insanity may also result from the nervous and systematic conditions produced by irregular teeth, and by the early loss of teeth that should have had careful attention from the skilled dentist.

SEVENTY-FIVE PER CENT OF ALL AMERICANS HAVE IRREGULAR TEETH

In America today, it is estimated that fully seventy-five per cent of people have irregular teeth. At the Forsythe Dental Infirmary it has been shown that fully ninety-five per cent of the children presenting themselves for treatment are thus affected. The difficulty of cleansing irregular teeth often results in decay.

In an examination of 10,500 school children, the British Dental Association found eighty-six per cent suffering from more or less pronounced defects of the teeth—the result of a diet lacking in the essential mineral elements upon which the bones and the teeth

HOW TO RAISE THE BABY

depend for their development, and of proper and timely dentistry.

Of 1694 children examined by Dr. A. Freedman Foote, only eleven were found to possess normal teeth. Dr. Foote, in a report to the Second District Dental Society of New York, stated that "the sixth year molars of nearly every child examined were broken down wholly or in part. In many instances these molars were decayed below the gum margins. So extensive and far advanced were the defects that corrective treatment, even if it were applied, would have been of little value."

The New York Department of Health, through Dr. T. W. VanWinkle, examined the teeth of 231,081 school children in New York City, finding 131,747 defective.

In the clinics of Northampton, Mass., established by Principal Janes, the Superintendent of Schools, it was found that of 2400 children examined, ninety-seven per cent were in need of dental attention.

Needless to say, the moral of all this is: First, that children should be supplied with plenty of material for building teeth; and next, that these members should receive the most scrupulous care.

As soon as the child is old enough (three years, or even younger, is about the proper age) it should be taught the use of a little tooth-brush, or better yet, the more sanitary tooth polisher or buffer, and encouraged to use this after each meal, if possible, particularly before going to bed.

MOST IMPORTANT TO CLEAN THE TEETH AT NIGHT

Be especially careful to see that the child performs its mouth toilet before retiring at night, no matter how

sleepy or indisposed to exert himself he may be. For the night is the "period of greatest decay." The busy little tongue and the jaws are at rest, and the salivary secretions are not kept circulating as they are in the day-time. This permits of the development of hyperacidity in the salivary secretions, and the attack of these acids upon the vulnerable alkaline substance of the teeth.

HOW TO USE DENTAL FLOSS

A spool of floss silk should also be provided, a strand of which the child should be taught to draw between the teeth, so as to thoroughly remove from the interdental spaces any impacted particles of food which, if allowed to remain, would ferment and cause tooth decay.

Floss silk is much better than a toothpick, as it is not likely to injure the delicate gums and to cause bleeding and possibly recession of these parts.

Great care should always be taken to avoid injuring the gums, or causing them to bleed, as this not only tends to recession but provides an opening through which germs may find entrance, thus favoring the development of pyorrhea and inflammation.

I can definitely assure you that time spent in teaching the children to care for their teeth is time most profitably spent. In fact, there are few ways in which hygiene contributes so much to permanent physical welfare as in the care of the teeth.

WONDERS OF ORTHODONTIA

If the teeth come in irregularly, they should be straightened by an orthodontist. This involves the

HOW TO RAISE THE BABY

expanding of the dental arches, the widening of air passages, and the correction of such facial deformities as “rabbit face” and “whopper jaw.” It results not only in a great improvement in the child’s health and appearance, but also in its mentality.

The work is accomplished by the use of certain attachments, worn for quite a considerable period of time, which gently expand the arches and force the teeth into their normal position. This may be done as early as four years, and should never be postponed until after the first teeth have fallen out.

CARE OF THE EAR

Coming now to consider the ear, an old adage advises us never to put “anything smaller than the elbow” into the ear. This of course, applies only to the inner part of the external ear, for adequate cleanliness could not be maintained were the ear not washed out regularly with soap and water.

However, the use of metallic objects, such as hairpins, the heads of pins, etc., in picking and poking about in the ear, is a practice that is fraught with grave possibilities of danger.

If, at any time, the ear should show evidences of waxy impaction, it is a comparatively simple matter for the mother to take a bulb syringe filled with warm water, have the child hold its head over a basin in the sink, and gently wash out the ear with four or five syringe-fuls of the water, until the wax shall have been thoroughly loosened; after which it can be picked out readily with the fingers, or a small pair of tweezers carefully handled.

PHYSICAL CARE FROM SECOND TO EIGHTH YEAR

THE EFFECT OF POSTURE UPON HEALTH

When the child reaches school age, the mother, especially in rural communities where visiting nurses and health officers are conspicuous by their absence, should be most vigilant in the matter of proper provision for the child's health.

We all remember the old-fashioned, low desk over which the child would be required to sprawl or stoop interminable hours every day. There is not a particle of doubt that thousands of cases of spinal curvature and prolapse of the abdominal organs have resulted from the manner of sitting made necessary by these foolish and entirely unjustifiable contrivances for the torture of youth.

The mother should make it her personal duty to see that the chair her child occupies at school is of such height as will enable him to sit in a normal, erect position while working at his desk, and that it conforms in shape to the slope of his back and furnishes adequate support to it.

Also, it would be well to see that the seat is so arranged that the light will come from behind and above the child, falling over the shoulder upon the page, instead of from the front and directly into the eyes.

Thousands of cases of eyestrain and chronic disorders of the eye have had their beginnings in the abuse of the eye during the child's school life, because of the neglect to insure proper seating and lighting facilities.

KEEPING BOWELS AND BLADDER HEALTHY

Another point of great importance to the child in school is that it answer the calls of Nature when they

HOW TO RAISE THE BABY

arise. Failure to do so may lead to serious disorders of the bladder or kidneys or, through the retention of poisons, of the digestive apparatus and the entire organism. It may result, too, in chronic constipation, for there is no precaution against this troublesome complaint which it is more necessary to observe than the practice of evacuating the bowels at the first intimation that this is needed.

There are different reasons why, in school, a child may be kept at his desk when there is an urgent call to empty the bladder or bowels. Sometimes the child may hesitate to ask to be excused because of bashfulness or modesty, but if parents would train all prudishness and false modesty out of their children, or better, never permit them to develop these traits, there would be no danger from this source. Permission to leave the room may be refused because it appears to the teacher that the child is asking for it oftener than is necessary. If this should be the case, parents should take the matter up with the teacher at once, for there is no overrating its importance.

CHAPTER XVIII

Physical Culture Exercises After the First Year

NATURE has provided that the development of the young animal, or the young human, shall be by physical exercise. With children, as with all young animals, this exercise is best and most naturally secured through the influence of play.

It is interesting to note that some of the most profound of our philosophers, as Prof. Max Müller, have shown that many of the games indulged in by children are well-nigh universal, and have their origin in remote antiquity.

It is not at all improbable that the child of the caveman, a half a million years ago, played "tag," "ring around a rosy," "leap frog" and "blind man's bluff." The same is true of his modern descendants in India, in Alaska, in New York City, or in any hamlet in the country.

It is interesting to note that "tag," and various games which involve wrestling and mimic combat, are a part of the natural education of young animals, as well as of young humans.

Old-fashioned, homey "romps" are excellent exercise for children and parents. Games of "bear," "pussy wants a corner," "hide and seek," etc., are both play and exercise, and are valuable for all ages, if grown-ups can lose their "dignity" sufficiently to take part in them.

HOW TO RAISE THE BABY

For out-of-door exercise there should be, if possible, a sand pile for the younger children. Swings are also good for exercise, and can be put in the outside doorway, or on the porch if necessary. A few sticks or boxes, spools and wheels, or a cart, wheelbarrow, or wagon, a kiddie car, velocipede, roller skates, ice skates, sleds —any of these will give the children of various ages the right kind of play exercise.

Or a child will derive a vast amount of amusement, and healthy exercise, too, from a bow and arrow, a wooden gun, or a hammer and saw. Marbles and tops get a child out of doors, and are valuable toys.

It can readily be seen that these exercises are of a wholesome, developing character, calculated not only to ensure bodily perfection, so far as muscular development is concerned, but to cultivate the admirable traits of quickness, dexterity and courage.

Any fixed rules tend to make exercise monotonous and a bore, soon to be neglected. For this reason it must be spontaneous, and must have variety.

But the parents should see that so far as possible the play exercise is taken under wholesome conditions. Let the children wear rompers, or other clothing which allows full body motion. Much of the playing of younger children will necessarily be done indoors; so by all means have an abundance of fresh air and sunlight in the play room. Have exercise bars and other apparatus, if desired and possible, and also mats or blankets for floor exercises. A child will be apt to exercise better to music than without it, especially if its parents take the exercises at the same time. For this the phonograph or the radio musical programs are excellent.



A play exercise good not only for the father but for the children. Hanging the weight from the shoulders in this manner helps to develop the chest, shoulders and arms of the child.

HOW TO RAISE THE BABY

A child should not be driven to exercise, but exercise should be made so attractive that he will be eager for it. If the parents will relax from their stiff and decorous posing occasionally to join their children in their fun, the entire family will benefit greatly, and that priceless relationship between parents and children—that of pals—will be established.

Parents must be careful, however, that the child shall not be injured by play of too rough a character, and that it shall not be continued so long as to produce excessive fatigue, nervousness and insomnia, or restlessness at night.

For it is a fact that children are rather irresponsible in these matters, and have a tendency to become highly excited in their little games, losing thereby some of the good they might gain from them if they were kept within reasonable bounds.

Excessive fatigue, as is well known, causes an overload of toxic material in the blood-stream, which poisons and irritates the nerves and the brain cells, and influences unfavorably every organ and function in the body.

The sound common sense of the parents will guide them in advising the children, and in exercising an unobtrusive supervision over them in this most interesting phase of their development.

The calisthenic drills that we are giving in our schools everywhere are undoubtedly of value, but they are not as vigorous as they should be.

A better system of exercises for children is found in the various forms of play that they most enjoy.

Kittens and puppies, as they run and wrestle and roll around the floor, jumping hither and thither under the



With father as a playmate, children find many fun-making exercises to develop their muscles. The author is supporting his little girls, having a combined weight of 250 pounds.

impulse of the playful spirit, give us an example of exercises that cannot be improved upon.

Two children, if left alone and allowed to follow their own instincts, will push and pull and wrestle and roll all around, just like kittens and puppies.

And, in a way, small children are nothing more than little animals. They have not yet gotten to the point where the mental side of life is of importance to them, and our main aim should be to make them as perfect in a physical way as we possibly can.

I believe every child, with only a moderate amount of attention, would approximate the physical perfection that my own children have acquired, for



Playing pickaback is valuable for the children, as they have to use considerable muscular energy in staying "on top."

EXERCISES AFTER THE FIRST YEAR

I have not put them through what you might call systematic training. I do not believe in rigid routine training for children at this age. I furnish them every opportunity to play. I play with them at frequent intervals. I sometimes play base, or what is called "pussy wants a corner," with them, and I believe I have as much fun as any one of them.

The exercises I have illustrated here should really not be classed as such. They should be regarded as play. When you begin to make work of an exercise a child loses interest in it. It must never become monotonous. Get up competitions of various kinds—wrestling, running, swimming, etc.—anything to make play or fun out of physical activity.

As I have said, most children need little encouragement to make them play. "Grown-ups" are always exclaiming in wonder and amazement at the way their youngsters can keep up such constant activity from dawn till dusk. But often this playing and romping brings into play only a few of the muscles of the body. And again, especially among little girls, there is often a tendency, as they grow older, to play the more inactive, sluggish games. It is a parent's duty to prevent this. With but little encouraging, a little "leading on," the children can be given the opportunity to develop not only in an ordinary way, but in a superior way. And it is surely evident to all older people, from their knowledge of the appalling amount of failure (through weakness), of sickness and of premature death in the world, that it is very important to give children a really superior start physically in order to give them a fair chance to make good in the big game of life later on.

HOW TO RAISE THE BABY

I often go on long walks with my children, and in order to add to the benefit of the walking I carry them on my back in the manner illustrated. Sometimes I carry two or more of them. All this helps me to get benefit from walking, and materially adds to the pleasure of the children. It may be considered a little undignified to walk through the streets in this particular manner, but you cannot always consider dignity and at the same time follow the natural instincts that demand regular physical activity.

Children respond very quickly to physical work of any kind. You can



Place hands over the ears of the child, and with the latter holding the forearm lift upward. Although most of the weight seems to be on the neck, the child can relieve the tension as much as it may desire by supporting part of the weight on the parent's forearm.

EXERCISES AFTER THE FIRST YEAR



An exercise for the spine. The parent, placing one hand on the back of the head, tries to pull it forward while the child pulls backward. After a time the child's spine in the region of the neck becomes so strong that it is difficult to pull the head forward.

actually see their little muscles grow under the influence of muscular activity that is sufficiently vigorous.

Some of the exercises that I consider specially valuable for children are swinging on a bar or trapeze ("skinning the cat"), "chinning" and various other movements that are of very great value in strengthening the arms, chest and spine.

I have referred to this frequently, but I am repeating the suggestion because of its inestimable value. We have a door bar in our house for the particular use of the children. It is across the door of their own room



Playing pickaback. This exercise may seem to some too violent for children, but a child can usually carry another child of its own weight in this manner without the least danger. The exercise is a splendid one, especially for the child doing the carrying.

EXERCISES AFTER THE FIRST YEAR

and of appropriate height for them. It is sometimes necessary for the older folks to bend down considerably to get through this door. This may be somewhat inconvenient, but it also helps to compel the adults of the house to secure some of the exercise valuable to them.

There are a number of other games popular among children that are very good for them. The "wheelbarrow," as illustrated, is especially beneficial for the child who plays the part of the wheel-barrow. It strengthens the arms, chest and back.

In playing with my children I get not only the keen pleasure of seeing them grow robust, but I also improve my own physical condition. Besides, there is a lot of stimulation in "chumming" with them. For what can be more interesting to a parent than his own sons and daughters? And yet, how many parents realize this?

It is always said that a man lives on in his art. It is certainly even more true that a man lives on in his children.

I have always felt that every book which I have published has been, in a way, a monument to my life work. To my mind such a monument is of far more value than a pile of granite or stone might be. But I believe that all of these kiddies that bear my name are monuments of still greater value. The best monument that a man can leave is the one in the form of flesh and blood.

Granite is supposed to be almost indestructible; but the human race will outlive it. A stone monument may last many generations, but to the life of the race there is no limit. Therefore, the greatest work, to my mind, that any man or woman can do is to leave behind a number of fine, strong, healthy children. And if he or she

HOW TO RAISE THE BABY



“The wheel-barrow.” An old exercise that is popular among children and can be highly recommended. The child resting the weight on the hands walks forward, while the child holding the feet does the “guiding.” This is highly recommended for chest, back and abdomen, and is, in fact, a good all-round exercise.

does his work properly, there should be no need of leaving them behind as children. He should be able to see them grow up to mature life, and should join with them

EXERCISES AFTER THE FIRST YEAR

in their pleasures and successes, unto the second and third, and, in some cases, even the fourth generation.

Parents who have not given their children the gift of health will have much of unnecessary sorrow and suffering in their lives. They will have to see their children fight against great odds; they will have to see them go through sickness and all the devitalizing psychic effects of weakness.

Physical well-being is the first requisite of mental and spiritual energy. And it takes mental and spiritual energy to make a success of one's life in the big sense.

It takes abundant vitality in this intense age to make one's way through the complications of the home world as well as through those of the business world.

Your daughters as well as your sons need all the physical strength that Nature originally intended they should have. They are both concerned in the greatness or the weakness of the next generation. They are both concerned with the educating of the next generation.

A man with ideals cannot use them to better advantage than by centering his interest on the physical betterment of the individual—and of the race.

The suggestions I have made here, if given a proper trial, should be of great value to both parents and children.

Here is a list of simple exercises, most of which are illustrated by appropriate photographs appearing on the pages of this chapter.

1. Child carried on parent's shoulders. Good for both grown-up and child.

HOW TO RAISE THE BABY

2. Have the children take turns carrying one another on their backs. The old-fashioned pickaback. Page 228.

3. Let older child carry younger on shoulders. Watch them closely at this, and do not let any child attempt to carry too heavy a companion in this fashion.

4. Vary No. 3 by setting the children to playing "pony polo," in pairs, one child of each pair acting as pony, the other rider. This play should be reserved for children over ten.

5. If father likes something a bit strenuous, he can carry two children on his shoulder, one behind the other. This is good for both the children riding. The one on top must balance carefully; the assistant carrier exercises back, shoulders and thighs. Page 224.

6. Lots of things can be done with the horizontal bar. One of these should be placed in the doorway of every child's room. Figure 5 shows the ancient and universal stunt of "chinning." Let the children compete to see who can run to the biggest score. But do not let them overstrain.

7. Another ancient and honored exercise, "skinning the cat."

8. Simple exercise and good fun is playing "wheelbarrow." Good for both children, particularly for the child acting as barrow, strengthening legs, arms, back and abdominal muscles. Page 230.

9. Strengthen neck by resisting forward pull of father's hand placed back of child's head. This is an excellent spine and neck strengthener. Page 227.

10. Let two youngsters take the "neck lock," and pull away.

EXERCISES AFTER THE FIRST YEAR

11. Lift child by the head, placing hands firmly over the ears. Caution must be observed with this exercise. Some children do not like it. A too sensitive brain or nervous system may make it unpleasant. If the child does not enjoy the stunt never urge it. The child may relieve the tension as much as he likes by grasping the parent's forearm, thus lessening the weight held by the neck muscles. This exercise should be discontinued after the third or fourth year. Page 226.

12. Side shoulder hang. Father may hang a child from each shoulder, as on page 221, or add variety by draping the children all about his person, as on page 223. One child is hung from each shoulder at the side, one on the shoulders behind his neck and one in front, grasping the back of his neck.

This list can be indefinitely extended by the whims and ingenuity of both parents and children. Never urge the children beyond their inclinations and their strength. But there are no limits to the fun that may be had, indoors and out, by grown-ups and youngsters who have learned to use their muscles as they play.

CHAPTER XIX

The Psychology of the Child—What Mothers Should Know About It

THE dawn of a new day is breaking for babyhood. The public is being slowly convinced that it is better to form than reform. It is being impressed with the relation of sin and crime to physical ignorance and degeneracy, and is realizing that we can never hope to close our jails and reformatories till the reformer directs his efforts toward strengthening the child physically as well as morally.

Let all of us help to speed the day when the importance of childhood shall be recognized—when the mist of ignorance shall be dispersed by the sunlight of truth, and we shall vouchsafe to the divine human infant the same opportunity for unimpeded growth as is enjoyed by the young of the lower animals.

Is it too Utopian to dream of a land of sunshine, and song and birds and flowers, where the babes of new generations shall live untrammeled by houses and clothing and the burden of the vices of our present civilization, and yet be the recipients of all that that same civilization is endeavoring to give childhood—sympathy, encouragement and the opportunities and stimuli for working out its physical, intellectual and spiritual salvation?

THE INFLUENCE OF ENVIRONMENT

The influence of environment upon a baby's mental and physical being is of very great importance. The

little one is a sort of mirror which, more or less faithfully, reflects its surroundings. In the case of the real mirror, however, the reflection is only of a passing nature, while with the baby, the things outside of itself that it sees or hears or feels become permanent impressions. The distinction between the bright, jolly, healthy infant, and the apathetic, gloomy, sickly one, will, on inquiry, often be found to be that of cheerful parents and a sunlit home on the one hand, and a surly father, a cross mother and airless, dim apartments on the other.

Parents, or a good many of them at least, overlook the fact that babyhood is the one period when the mobile human material can be moulded at will into shapes of beauty or of ugliness. They too often fail to realize that, for this reason, everything with which the little one comes in contact tends to further its advancement or hasten its retrogression. Its senses serve for one of two things—they either convey to its awakening brain impressions that please and soothe, or impressions that annoy and irritate. And these are like the work of the engraver's tool in soft metal, first a mere suggestion, then a gradual deepening of the line till finally the indelible impression is made.

The poet wrote wisely, well and truly when he averred that the "child is father of the man," for the characteristics which appear in manhood are but the fruition of the seed sown in childhood. Remembering this, then, and remembering too that a baby's senses are for the time being acting as its reason and conscience, does it not follow that we should do our utmost to gratify those senses along legitimate lines by permitting them to come in contact only with things wholesome and beautiful,

HOW TO RAISE THE BABY

in order that the immature mentality may, by a process of assimilation, become beautiful and wholesome also?

Beauty is a condition or arrangement which we know exists, but which we cannot define. All we know is that it is what it is, and beyond this we are in the dark, in spite of laborious arguments and attempted explanations on the part of logicians and metaphysicians. We enjoy the odor of a violet although we cannot say why.

THE LOVE OF BEAUTY A HUMAN INSTINCT

The point that I am attempting to make is that love of beauty is a human instinct, rather than a quality acquired by study, or by the ripening of the faculties.

In other words, a baby, within the limitations of its little senses, is as capable of appreciating the color, form and perfume of a Jacqueminot rose as are its parents, because the power of such appreciation was born with it, precisely as is its power of distinguishing between things nauseous to the taste and those that are palatable.

I have in mind three babies of my acquaintance. In the parlor of the parents of one, a boy, hangs a very lovely study of peonies. Whenever the youngster gets fretful, as the best of youngsters will, he is shown the pictured flowers. Instantly the small face lights up with animation, the smiles reappear, and the child becomes absorbed in the glowing beauties of the painting.

Another little one is a girl. She is also a mite of a few months and, except for scrambling on a grass plot in a state of nature, her greatest joy in life is to listen to her mother playing some dreamy composition, say, one

of Chopin's nocturnes. Then the child's countenance assumes a rapt expression of spiritual content, and, as she wears this look, no one can doubt that the serene beauty of the piece is in harmony with, and understood by her budding soul.

And there is yet the other baby. The parents of this one are well-to-do, and live in a large apartment, most of the windows of which peer blindly into a so-called light shaft. The nursery faces on this shaft. It is a fairly big room with painted walls that are devoid of decorations of any kind. Both parents come of hard-headed New England stock in whose make-up there is no grain of artistic feeling.

As a consequence, the house throughout is thoroughly well furnished, but for use only. Flowers there are none, pictures but a few, and these hard, black and white engravings; the piano is kept shut, because playing tends to stain the keys and encourage frivolity; and a Puritanical severity of conversation and demeanor characterizes all the members of the household, who smile but seldom and laugh less.

The baby's nurse is a Scotch woman, a follower of Calvin, and consequently a believer in the cheerful doctrine that everybody is irrevocably predestined either to damnation or salvation.

Can you picture the baby—the tiny human chameleon that, like all of its kind, takes color from its surroundings? It is a solemn, sallow-faced child, with but few, if any, of the charms of babyhood. Its eyes are hollow and wistful, and it smiles but rarely. It seems to be too much depressed even to be peevish. Healthy it is not, and it sleeps poorly.

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If you have the gift of sympathy with children, you feel instinctively that its nature, or at least that part of it which craves for beauty, is being starved.

Parents to whose care the Almighty has committed little ones, be mindful that you are not traitors to your trust. Beauty is as much a child's prerogative as are its food and clothing.

Draw up the shades and let your babies revel in the beauty of the sunlight. Let there be things bright and beautiful about the house. See to it that your child knows the beauty of untrammelled limbs. Let it hear the beauty of its mother's voice in song.

And from the first, teach it and yourself the beauty of kind words, of patience and tender attention.

SCHOOLING NOT SO IMPORTANT AS HEALTH

And do not be in too great a hurry to "begin the education" of your child. The best education you can possibly give him is to teach him first to be a good human animal—with a well-developed physique.

When a child's body is growing as it should, Nature doesn't pay much attention to teaching its brain the multiplication table. If, however, you make play of education, encouraging the youngster, from the first, to ask the million and one questions that every healthy, normal child can ask, he will accumulate a really surprising amount of education.

Alexander and Carl von Humbolt, two of the best and most soundly educated men the world has ever known, were educated in this "hap-hazard" way. They had tutors who talked to them, and answered their questions about everything—especially about all the

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wonderful things of Nature that were found on, or were suggested by, their father's immense estate.

Of course, not many of us can enjoy these splendid advantages. Yet we can make the most of what the gods have provided for us, and give to our children ourselves, our love, and the invaluable aid to mental development that comes from the careful answering of questions.

This is a big secret, in a very few words. Put the suggestion into practice, and increase the happiness of your children.

And, incidentally, you yourself will also be a big gainer. For, in the delightful interchange of the mind's coinage, the more you spend, the more will you have left.

The point of view of the child in his relation with his parents, his playmates and companions, his teachers, and the people with whom he is brought in contact, is an intensely interesting study.

The gradual evolution, the subtle development from the simple to the complex, from the homogeneous to the heterogeneous, as Spencer would say, is one of the most fascinating of studies, and has furnished the theme for innumerable profoundly written tomes.

Briefly, however, it may be summed up by saying that the evolution of the child, even the most delicately bred and kindly disposed child, implies the obliteration of savage instincts inherent in the human animal and their replacement by a feeling of social dependence and a certain responsibility toward society and toward those with whom the child is brought in contact, that tames the savage in its nature and brings out the cultured product of civilization.

HOW TO RAISE THE BABY

There are few children who do not have to be taught that it is not right to pull the cat's tail, stick their fingers in the puppy's eyes, break the dishes, and take for their own whatever they can reach and carry away.

However, gentle admonition, or, when necessary, a stern reprimand, will accomplish wonders in an incredibly short time, if persisted in.

Many mothers visit their nervousness and lack of self-control on their children, treating them at times with unusual severity; while, on the other hand, under other conditions, they may totally ignore actions that are even more reprehensible. Because of this, the children do not secure a proper sense of values. The element of consistency has been overlooked. Every mother should remember that if an act is wrong, it is wrong any hour of the day and night, or any day of the week, and the child should be impressed with this fact.

If, on the contrary, a child's act is merely an expression of healthy good nature, and is not attended by any evil consequences to anybody or anything, there is no real reason why he should be reprimanded and consequently made to suffer from a feeling of humiliation.

TEACHING SEX FACTS TO CHILDREN

As every reader of my articles is aware, I have consistently advocated for many, many years a liberal point of view in reference to the question of sex knowledge.

Freud, Coriat and other psycho-analysts have proved that the sex life of the child begins at an incredibly early age. I can only caution mothers carefully to observe the habits of their children. I would also urge them that at a very early age they should, by wise counsel,

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or by some of the many methods of imparting sex knowledge which are now so popular, instruct their children in these profound questions in a clean, wholesome way.

This may serve to turn the little feet in the path of health, vigor and strength, instead of allowing them to travel the unwholesome, unnatural course that leads to abnormality, hysteria, or insanity itself.

PART III

Disorders and Diseases of Infancy and Childhood

“An infant crying in the night:
An infant crying for the light:
And with no language but a cry.”
—*Tennyson.*

CHAPTER XX

Habits

THE bad habits developed by children are a source of constant worry and anxiety to the mother and family. And well they may be, for they are very difficult to correct, and, if not corrected, may be followed by most grave and disfiguring consequences.

Such habits as lip-biting or lip-sucking, tongue-protrusion, thumb-sucking, finger-sucking, or nail-biting, are a very frequent cause of facial deformities.

The tender tissues of the infant or child respond to these continued pressures or pullings, and sometimes irretrievable damage is done to mind and body, for a faulty development of the jaws and dental arches may result, and this involves, as explained in another chapter, a long train of ills, including interference with the development of the brain.

Still another evil result of the sucking habit is that it unduly stimulates the flow of saliva, thus not only wasting this fluid, but changing the character of the stomach secretions. This may lead to various digestive disturbances, for the normal stomach juices are acid in reaction, while the reaction of the saliva is alkaline. The protein or albumen in the baby's food will not digest so readily if he is continually swallowing alkaline saliva.

All the foregoing applies to the sucking of nipples and pacifiers, as well as of thumbs and fingers. The former is not only bad in itself, but tends to encourage the sucking of other things.

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If mothers realized the dangers of the sucking habit, they would break it at whatever cost to their own or their neighbors' peace of mind, and this is sometimes a very difficult thing to do.

It will not do to put on mitts for the purpose of keeping the thumbs and fingers out of the mouth, for biting and sucking these rough fabrics is even worse, if possible, than sucking the fingers.

A celluloid or rubber ball, into which the hands are thrust, has been found excellent in preventing this sucking of thumbs and fingers.

Good results have also been obtained by placing some substance with a very disagreeable or bitter taste, such as extract of aloes, infusion of quassia or assafoetida, upon the thumbs or fingers. These mixtures will make the sucking of these parts so unpleasant that the child will usually discontinue the practice. In very bad cases, however, even this treatment is of no avail.

If everything else fails, the only thing to do is to keep the thumbs and fingers out of the mouth by force. This can be done by making the sleeves of the night-dress extend considerably below the hands and tying the openings; by binding the hands to the sides at night, and during the day, too, if this should be necessary; or putting the elbow in pasteboard splints so that the arm cannot be bent to reach the mouth.

This treatment must be persisted in for many months if success is to be assured.

ONE CAUSE OF THE SUCKING HABIT

Many people, even many doctors, do not seem to know that one of the principal causes of the sucking



Thumb-sucking may *look* "cute," but it is a bad habit and should be discouraged.

habit is malnutrition. If the nursing mother indulges in an excessive amount of animal food, or of highly seasoned foods, if she uses such products as refined sugar and vinegar, the baby will have unnatural cravings which it will try to satisfy by thumb-sucking.

If sugar of milk, cane sugar, malt sugar, or syrup, is added to the baby's food, it will be tormented by thirst (as you can readily understand if you try it yourself),

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and, as in the previous case, will seek relief by thumb-sucking. Remember to give every lip-sucking, thumb-biting baby all the water it cares to drink. You will find this a decided help in breaking the habit.

An insufficient amount of food will, of course, have the same effect as improper food. Mothers often do not have enough milk to nourish their infants properly.

Another cause of the trouble may be the bad judgment of the mother or nurse. Many mothers and a few lazy nurses make the mistake of starting a child on the thumb-sucking habit by inserting its finger or thumb in its mouth when it goes to sleep, hoping thereby to make it more contented and happy. But the temporary comfort is far more than offset by the likelihood of inducing indigestion (through the waste of saliva), infection, or adenoids.

Watch your child closely when he is going to sleep, and never, under any circumstances, permit him to put his finger, or a corner of his bed covering, or any foreign object, in his mouth.

BEWARE THE PACIFIER

I cannot leave this subject without another strong word of caution against the use of the "pacifier," or "comforter"—given to the child to suck, in order to keep it quiet.

The pacifier is not what its name would indicate it to be. It is, in reality, a distributor of the germs of highly contagious diseases—tuberculosis, diphtheria and other infections—that it picks up by being slobbered over and dropped into all sorts of unsanitary places. But even if one could be assured of its being always

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clean, it would still be dangerous for the reasons already given.

STAMMERING, STUTTERING, LISPING AND OTHER SPEECH DEFECTS

Many people use the terms "stammering" and "stuttering" interchangeably, although they do not mean the same thing at all. Stammering implies a defect of speech which renders the child almost unable—at times wholly unable—to pronounce words. Stuttering is a condition in which the child repeats rapidly the consonant at the beginning of a word, as "c-c-c-cat." Both these habits, as well as lisping, are of nervous origin. They are not commonly met before the age of six, although occasionally they may make their appearance at a somewhat earlier age.

The most effective treatment is prevention, and the method employed for this purpose may also be used to effect a cure after the habit has been acquired.

From the very beginning the child should be taught to speak deliberately and slowly, pronouncing every word with distinctness. Any word with which it has difficulty should be repeated distinctly by some one else, until the child is familiar with the sound.

The effect of adverse suggestion must be carefully avoided. The child should be kept free from associating with anybody who stammers or stutters. It must be cautioned never to talk when excited. The moment there is the slightest tendency to stammer, stutter, or lisp, the child should be gently admonished to stop until he has caught his breath and regained control of the muscles and nerves of his speech organs.

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Breathing exercises are of great value, inasmuch as the disorder seems, in part, to be due to lack of control of the diaphragm. Holding the breath for several seconds, letting it out slowly, or with regular interruptions, has been found extremely useful, when repeated several times daily.

Children who stutter or stammer should be taught to take a full breath before beginning each sentence. Voice training should be a part of their regular curriculum. They should practice by uttering the vowel sounds slowly and without hesitation, beginning with a whisper and gradually developing to the full voice. Afterward the vowel sounds may be preceded by consonants.

The use of verse is a great help in overcoming the tendency to stammering, as is also recitation in concert with other children, as practiced in most of our Public Schools.

These conditions can all be cured, if the mother will have patience and persistence, and confidence in her own ability to bring about the desired result.

DIRT-EATING—ITS CAUSES AND HOW TO CURE IT

Dirt-eating is usually classed as an abnormal condition, an essentially morbid craving—hardly ever to be found in a normal child. This is true if we consider the result of faulty nutrition as a manifestation of abnormality. For I am convinced that the main cause for dirt-eating is mineral starvation, brought about by a diet deficient in alkaline bases.

Remember that the habit rarely develops until after the third year—when the average American child is on a “pappy” diet, being fed on farina, cream of wheat,

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corn flakes, white bread, refined sugar, and similar soft, denatured foods.

The habit, no doubt, is aggravated by general nervousness. My contention, however, is that the nervousness is a result of the mineral starvation, just as is the craving of the little one for the calcium salts and magnesium that he instinctively expects to get out of the clay.

If your child has shown any tendency to eat dirt, give him plenty of whole-wheat bread and other whole-grain products; also vegetables and fruits in abundance, and all the rich lime-containing milk he can drink. Then, with a little moral suasion, you will see this habit fade away.

NOSE-PICKING

Constant picking at the nose in infants and young children is almost invariably associated with some form of intestinal irritation. Not infrequently it arises as a result of the presence of worms—most frequently seat-worms, or pinworms, in the intestinal canal.

The quickest and perhaps the most certain method of ridding the bowel of pinworms is to inject into the intestine a pint or more of tepid water, into which two tablespoonfuls of common salt have been dissolved.

This will kill or paralyze the worms, which will then pass out of the bowel in the stool.

SNORING

Snoring is a peculiar rough noise produced by deep inspiration and expiration through the nose and open mouth in sleep, usually while lying on the back. The noise is caused by the vibration of the soft palate and

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the uvula—the little soft pink finger hanging down in the back of the mouth. The same bad results will come from snoring as from adenoids—not from the snoring itself but from the mouth breathing which is associated with it.

A bandage fitted over the jaw and head so as to hold the mouth closed will often be sufficient to correct the habit. A towel tied about the body with the knot at the back will have a tendency to keep the child lying on one side. Examination should be made of the nasal passages, as these are usually more or less obstructed in snorers. If there are adenoids, there is apt to be snoring, and treatment should be given for the reduction of these growths.

CHAPTER XXI

First Aid in Emergencies

EVERY mother should be provided with an "emergency outfit."

Bulb Syringe. The most important of these "first aid" helps is a bulb syringe, capable of holding from four to six ounces, with a hard rubber nozzle. This will be found an invaluable means of quickly evacuating the lower bowel in all conditions in which constipation—especially when associated with fever—is present.

In using this syringe, the bulb should be compressed, and the fluid drawn into it. The nozzle should then be thoroughly anointed with soap, vaseline, or sweet oil, and gently inserted in the rectum. The water can then be slowly forced up into the colon.

Fountain Syringe. If a large injection, flooding the entire lower bowel, is thought desirable or necessary, it would be better to use a fountain syringe.

As it is extremely difficult to get a child to retain a large injection, it would be well to wrap a narrow roller bandage around the nozzle, about two inches from the top.

This can be pressed firmly against the anus during the injection, and will prevent the water from being evacuated until the pressure of the padded tube is released.

Colon Tube. A large enema should be given as a "high" enema, rather than the ordinary "low" enema. A colon tube for this purpose can be secured in practically any drug store. These tubes are of semi-flexible

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rubber throughout, without hard tips or nozzles. Secure the smallest tube for tiny babies, larger ones for older children.

After being well oiled or soaped, the colon tube is gently inserted into the rectum and slowly passed into the colon for a distance of six to ten or twelve inches. If the water is allowed to gently flow from the tube into the rectum after the tip has been inserted for an inch or two, the tube may be passed without discomfort as high into the colon as considered necessary.

The enema is given while the fountain syringe is suspended some distance above the bed, couch, or table, on which the baby lies. For a child under six months of age it is best to have this distance not over twelve to eighteen inches, so as to avoid a too forcible flow of the water.

Large injections should always be given very slowly, the child in the meantime lying upon its left side, so as to facilitate the passage of the water into the lower intestine.

Hot-Water Bag. Another valuable first-aid requisite is a hot-water bag. No mother should ever be without the means of applying heat to the abdomen of the baby during attacks of colic and similar disturbances, or to the extremities, in the event of any deficiency in the circulation. These bags are made in various sizes and shapes. It would be well, however, to get one that is relatively small in size. And remember never to completely fill the bag. A bag two-thirds full will conform more readily to the surface to which it is applied, and give better service, even though the water may have to be heated a little more frequently.

Ice Bags. Either the hot-water bag or an ice bag will occasionally be required to relieve congestion and pain—such as headache or abdominal conditions, or for a rapid or painful heart action, etc. The ice bag should not be used, however, unless two or three layers of wet cloth are placed between the bag and the flesh; for the ice is too paralyzing to nerve action if used for a considerable time, while its use for a short time only is usually followed by a marked reaction and an aggravation of the initial symptoms.

Combination Hot-Water Bag and Syringe. It is perhaps well to mention here that a combination hot-water bottle and fountain syringe has been devised somewhat recently, and this, if procurable, would be a convenient, economical and satisfactory appliance to have in any home.

Bulb Atomizer and Boric Acid. A bulb atomizer, with a little boric-acid solution, is also a rather convenient thing to have in the baby equipment. As a general rule, I do not advocate the use of any form of medication in the nasal passages, but a mild alkaline spray, such as a saturated solution of boric acid, is excellent for maintaining strict cleanliness of these passages, and will sometimes prevent infections that might otherwise gain a foothold.

Turpentine. It may be advisable to have also in the emergency outfit a bottle of turpentine. A few drops of turpentine, sprinkled on a towel wrung out of hot water, and applied to the abdomen, affords almost instant relief in many cases of colic, and constitutes an excellent counter-irritant in all disorders in which it is necessary to stimulate the local circulation.

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Vaseline. A tube of vaseline should also be provided for anointing syringe nozzles, for applications to crusts or scales on the scalp, and for divers other purposes that may develop from time to time.

Liquid Soap. A bottle of synol, or some other liquid antiseptic soap, should also be a part of the outfit. It should be used whenever there is any indication of local infection or skin eruption.

Stearate of Zinc. A box of stearate of zinc, with a perforated shaker top, should also be in the possession of the mother. This is excellent for preventing diaper rash, or for the chafing which constitutes such a source of annoyance with chubby babies, particularly in the summer-time. It is very soothing to a tender, delicate skin which has been irritated by urinary and fecal discharges.

Absorbent Cotton. Absorbent cotton should always be on hand and convenient for application to the ears, the nostrils, and other parts of the body, as required.

Miscellaneous. In addition there should also be on hand a small quantity of sterile gauze; a small bottle of iodine; hydrogen dioxide (peroxide); baking soda; antiphlogistine; and milk of magnesia. The last named is valuable for temporarily correcting acid conditions of the stomach, so common in infancy and early childhood.

These articles and supplies are the most important of those that are likely to be required. They will be found extremely useful to the mother, and will save many an anxious moment. They may obviate conditions that might, if neglected, become a source of grave danger.

FIRST AID IN EMERGENCIES

BUMPS AND BRUISES

For the bumps and bruises to which the child is subject there is little to be done except to attend to the local symptoms of inflammation by means of alternate hot and cold compresses, or possibly a cold pack, kept on the parts until the active symptoms of inflammation have subsided.

If this is not sufficient, it would be well to use some local defervescent, such as an application of hot antiphlogistine or antithermoline to the parts. Complete rest should also be insisted upon.

If persisted in for a few days, this treatment will usually suffice to allay all inflammation and restore normal circulation to the parts.

BURNS AND SCALDS

Burns and scalds should be treated by the immediate application of a saturated solution of bicarbonate of soda—common baking soda.

If this is applied before the skin is raised in a blister, a painful condition may usually be prevented. Cold compresses—cloths wrung out of cold water—cold baths, iced water, or diluted cologne water, will often relieve the smarting pain at this stage.

When there is a considerable area involved a physician should be placed in charge of the case at once. If treatment must be given before he arrives, a bath of slightly warmed water, or an application of some healing oily fluid, covered with a thick layer of gauze, is to be recommended. Cotton should not be used on burns, because the fibres aggravate the raw wounds.

One remedy suggested by physicians is old-fashioned

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carron oil. This is made of equal parts of lime water and linseed oil; it should be smeared on liberally and then covered with a lint or gauze dressing.

Olive oil and the yolk of egg are also extensively used.

Many medical men use a one per cent solution of picric acid. Gauze saturated with this solution is applied to the burn or scalded surface; then it is covered with gauze and a bandage applied.

This dressing is left in place for two or three days, being kept wet all the time with the solution mentioned. Before being removed it must always be thoroughly wet with the solution, so that the skin is not peeled from the surfaces.

CUTS AND HEMORRHAGE

These are conditions that cause the young mother much concern. If a blood-vessel is severed there is nothing to do, of course, except to send for a physician, who will pick up the severed ends of the veins or artery with a small pair of forceps, and ligate them by tying a fine catgut suture around the gaping ends.

This will be followed by a thorough cleansing, to prevent infection, and then by the application of a compress, or dry dressing, which will tend to exclude the air and the micro-organisms that might otherwise be carried to the exposed surfaces.

If the cut is only of a superficial nature, however, it should be allowed to bleed freely, for blood is the best of all antiseptics. After the blood has dried, an adhesive strip should be applied, to draw the edges of the wound together, and a clean bandage of gauze placed over all. If the cut is deep, remember it has to heal

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from the inside first; therefore don't close entirely the outside of such a wound. Leave openings for drainage.

CHAFING

All babies, particularly fat ones, are likely to be disturbed by chafing in the various folds of the body. Lack of cleanliness and soiled diapers may be responsible for this. The bowel discharge may be acid or otherwise irritating. Use olive oil, vaseline, or stearate of zinc, in the folds in cases resulting from irritating discharges. In others use a talcum powder, or put powdered cotton or gauze in the folds.

CRACKS

When the skin has become dry and harsh and broken warm water should be applied with a very soft cloth and another soft cloth used to dry the parts very thoroughly. Then use the moist ointments mentioned above.

CHAPPING AND ROUGHENING OF SKIN

Be careful about exposing the body to cold harsh winds. Be sure to dry parts well after bathing. Oil may be applied with benefit to the affected areas.

FOR A NOSEBLEED

Many children are subject to recurrent attacks of nosebleed which are frequently the cause of great alarm to the household. This condition may occasionally be due to what is known as hemophilia—a congenital lack of coagulating power in the blood. But as a general rule it is due to mineral starvation and to the too liberal use of meat.

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This excessive use of animal food by a young child not only tends to produce hemorrhage, but also is the cause of general irritability and quarrelsomeness.

The active symptoms of nosebleed can usually be controlled by applications of cold water to the nose and especially to the back of the neck. Heat to the spine is better in some cases. Douching the nose with hot or cold water containing salt or lemon juice is good. Having the child hold the breath for several seconds will help control the bleeding, and standing with the back against the wall and hands stretched high overhead, also against the wall, will stop it in a few minutes.

Pressure applied quite firmly to the upper lip just beneath each nostril, or at the root of the nose, is another measure which is usually effective. Hot foot-baths are also excellent. Caution the child against blowing the nose until long after the hemorrhage is checked.

DUST IN THE EYE

If she is sufficiently careful, it is not at all difficult for the mother to take a wooden match, place it on the upper eyelid, and then, by folding the eyelashes up over the match and rolling the eyelid back, to expose the entire under surface of the lid.

The offending speck can then be readily seen and removed with the corner of a clean, very soft, handkerchief.

SPLINTERS

There is only one way to remove a splinter—and that is to pull or dig it out.

This process should be as gentle as circumstances permit; but it may be necessary to dig down under the

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particle and lift it out, or else to expose it so that the point may be grasped by a pair of small tweezers.

As a splinter is very apt to be contaminated by dust or soiled earth, etc., it is a good plan, after withdrawing it, to suck some of the blood from the wound, also to apply a little tincture of iodine, or hydrogen peroxide, or alcohol. Usually no further attention will be required, and the child will soon forget all about the matter.

HOLDING THE BREATH AND CHOKING

Many children have the habit of holding the breath until they are almost unconscious. This is essentially a habit engendered by "temper."

One thing a mother should always remember in connection with this habit is that no person can possibly commit suicide by holding his breath. For as soon as unconsciousness is brought about by lack of air, the natural function of breathing is restored.

If the choking is due to the presence of foreign bodies in the throat, or the accumulation of mucus in the air passages, this can be overcome by thrusting your index finger down the child's throat and forcibly opening up the air passage.

FOREIGN BODIES IN THE EAR OR NOSE

If the child has put something in its ear which can be seen and removed by lifting out with a covered toothpick, or some other available implement, there is no cause for worry. But if it cannot be seen, or these simple methods fail to dislodge it, it will be best to send at once for some one competent to remove such ob-

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structions and equipped with the necessary instruments for this purpose.

If the foreign body is in the nose, the child should be coaxed to blow the nostril strongly, while the empty nostril is being compressed. If this is not effective, a physician should be called. With a cotton-tipped probe, he will force the object back into the posterior portion of the nose from which it can be ejected by spitting.

FEVER

Fever should be treated first by a thorough elimination of the toxins accumulated in the bowel. This can be accomplished most rapidly by a cleansing enema.

It may be necessary also to empty the stomach by vomiting—as explained in another chapter.

It is always well to withhold food as long as any fever exists. For the presence of the fever signifies that the physiological forces of the system are disturbed to such an extent as to make it impossible to convert food into material useful for body building, or other physiological purposes.

WHEN THE CHILD SWALLOWS A PIN

Young children may swallow foreign objects of every conceivable kind. Almost as soon as they can grasp objects they have an inclination to put these objects in the mouth.

Some of these swallowers are remarkable for their extreme youth. Thus Dr. Willy Meyer some time ago reported the case of a baby of seven weeks who swallowed an open safety-pin; it passed out of the rectum nineteen hours later.

FIRST AID IN EMERGENCIES

If your child swallows a nail, pin, whistle, or any foreign body, do not let yourself be persuaded to administer a purgative.

In the case of a sharp-pointed object this frequently results in perforation of the intestine.

The proper thing to do is to give the child *solid* food for a day or two, so as to cover the foreign object with a sort of protective coating.

Plenty of potatoes, rice, crackers, or bread, is excellent, and one of the best things to give older children is mashed potatoes, mixed with a considerable quantity of absorbent cotton, picked in small pieces.

After two or three days, if the foreign body has not yet passed, a dose of castor oil or mineral oil may be given.

Sometimes the foreign body passes down to the sigmoid flexure, the last turn of the gut, and gets stuck there.

In this event the object may often be reached and removed by inserting the finger in the rectum.

When possible it is often expedient to follow the downward course of the foreign body by taking a series of X-ray photographs.

CHAPTER XXII

Common Ills of Childhood

WHILE this book is intended primarily for the mother of a baby, or very young child, I cannot refrain from giving here a piece of advice that may, perhaps, be somewhat more applicable to slightly older children. It is this:

Don't make the mistake of keeping the child in bed unless it desires to remain there. When a child wants to be up and about he is probably well enough to be up, and even when ill he will usually recover far more quickly if he is allowed to follow his instincts.

The allopathic idea of keeping a child in bed whenever it is ill is absolutely against natural law, and is in many cases a direct cause of death.

When my children are ill, if they want to stay in bed they are allowed the privilege. If they want to go out and play, their inclinations are accepted as sufficient evidence of their physical needs at that time. Human instincts are usually a good guide. They are especially so in infant or child life. Therefore do not make your child lie in bed if he does not want to, and thus invite serious complications. Being "up and about" stimulates the life processes to such an extent as to materially lessen the accumulation of poisons lingering in the system; and these poisons are the direct cause of the symptoms associated with practically all serious ailments.

While in all serious disturbances of health it may be advisable to call a physician, there are a few things

about the nursing or management of a sick child that every mother should know. One of the most important is that children usually respond quickly to the proper treatment if given a chance. Therefore, give no medicines; learn to keep hands off for the greater part of the time; allow no unnecessary aggravations to harass the really sick child, such as needless passing through or disturbing of the room, noises, etc. Usually all visiting should be taboo.

Water should always be convenient, for a sick child should drink considerable water. The mouth should be cleansed carefully each morning and evening. Never neglect the bowels during illness, or at any other time.

Bedclothing should be changed frequently, but without disturbing the patient. Always have open windows, and see that there is a cleansing draft of air after an offensive bowel movement. External heat is frequently called for, and this may be applied by means of hot-water bottles, by sand or salt bags, or by bricks, irons, plates, stove-lids, fireless-cooker heating plates, etc., wrapped carefully to avoid burning the patient.

When cold is called for, the water bottle, or ice bag may be used partly filled with ice, but there should be several layers of cloth between the cold bag and the body. Never apply ice directly to the body.

Every mother should become familiar with the normal rate of respiration, pulse-beat and temperature of her baby.

The average rapidity of breathing in children varies with the age, and to a certain degree with the individual characteristics of the child.

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At birth, and for the first fortnight or three weeks, respirations vary from 30 to 50 per minute, averaging about 45.

During the remainder of the first year, they average 23 to 33. From one to two years they average about 28. From two to four years about 25. From four to fifteen years from 18 to 25; and with adults from 16 to 18 per minute.

When the child is asleep these rates are from a quarter to a fifth less, up to the age of four or five years. After this, the breathing is but slightly slower during sleep.

In order to determine the frequency of respiration, the mother should watch the "in and out" movements of the abdomen, or else put her hand lightly over the abdomen and feel it. It is necessary to be very gentle about this, as the slightest excitement increases the rate of respiration very materially. The best time for observing the respiratory rate is during sleep.

It must never be forgotten that while children are very susceptible to illness, and are extremely sick when they are sick, they get well rapidly, if the proper measures for relieving the sickness are taken.

The chief of these measures, I cannot too often emphasize, are fasting, the enema, plentiful water drinking, wet packs, proper baths and a liberal fruit diet.

With this treatment, ninety-nine cases out of a hundred will recover. For it is distinctly in line with Nature's methods, it is working in harmony with natural laws.

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THE PULSE-RATE

The pulse-rate shares to a very great extent the irregularity of respiration. The slightest excitement, such as crying, or even feeding, increases the rate of the pulse so materially as to make the observations drawn under these conditions of little or no value. The younger the child the more patent this deviation is. Consequently the mother need feel no anxiety if a young child should temporarily have a pulse-rate of a dozen or twenty beats above the normal rate.

Even during sleeping the pulse-rate, in very young children, varies materially, so that deviations which might be considered extremely dangerous if met with in an adult need occasion no alarm whatsoever—unless they are accompanied by a decided increase in temperature.

The pulse may be felt best over the heart, although if the mother has a very delicate sense of touch, she may get it from the carotid artery in the neck, directly under the angle of the jaw on the left side, or even in the wrist.

The normal average pulse-rate at different ages should be approximately as follows:

AGE	NO. BEATS PER MINUTE
At birth.....	from 130 to 150
For the first month.....	from 120 to 140
From the first to sixth month.....	about 125
From six months to a year.....	about 118
From the first to the second year.....	from 110 to 118
From the second to fourth year.....	from 100 to 110
At six years.....	about 90 to 100
At eight years.....	from 88 to 90
In adult life.....	from 70 to 72

How to RAISE THE BABY

TEMPERATURE AS A GUIDE TO HEALTH

Every mother should be familiar with the normal temperature of the baby, and also with the use of the clinical thermometer. For the temperature indicates,



Taking baby's temperature by rectum. The Vanta shirt worn in illustration does away with both pins and buttons.

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with a surprising degree of exactitude, the presence of diseased conditions within the body.

It is impossible to estimate these deviations in temperature by placing the hand on the baby's forehead, or over the abdomen, as so many mothers attempt to do, because even if an approximately accurate estimate could be made in this way, the surface temperature in very many diseases may be normal or subnormal, while the actual body temperature is decidedly above normal. In all disease accompanied by circulatory disturbances, this is the rule rather than the exception.



Ordinary type of clinical thermometer graduated in two-tenths of a degree.

The instrument used should be of the self-registering variety, made entirely of glass, without any outside covering. Most of the instruments now used are so shaped that the front acts as a magnifying lens, making it very much more easy to read the mercury column, and its corresponding figures.

The temperature may be taken either in the armpit, the mouth, or the rectum. The child may be turned gently upon its side, with the thighs flexed, after which the bulb of the thermometer, which has been dipped in sweet oil, may be gently inserted an inch or more into the anus by a screwing movement, and held there for the minute or two required for the complete registration of the degree of temperature.

The normal temperature of the baby varies some-

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what during the first week of life, but subsequently settles down to between 98 and 98.6 degrees, as is the case with the adult. A variation of a few fifths of a degree should occasion no alarm, but if there should be a showing of a hundred, or more, on the Fahrenheit scale of the thermometer, especially if this temperature is accompanied by evidences of feverishness and restlessness, it will be quite evident that the child is suffering from some form of toxemia and requires attention.



Baby's temperature may also be taken at the armpit. Place thermometer in armpit and hold close to side for two minutes.

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It must be remembered that any toxemia (systemic poisoning) may occasion these disturbances in temperature. So it is necessary to seek for the cause and remove it, if a normal condition is to be restored.

THE ASPECTS OF DISEASE

The mother, by this time, is thoroughly familiar with what I might call the aspect of health in her baby. The quiet content, the animated expression, the satisfaction with itself and with its surroundings, alternating with good healthy fits of crying, are unmistakable characteristics of a healthy baby.

The aspect of the child in ill health is so different that it should leave no room for doubt as to its condition.

The position assumed by the infant when it is suffering from any disease, is something a mother must carefully consider. When a child is in pain, or is feverish, it usually tosses and turns about, even in its sleep. When it is awake, it is insistent in its desire to be lifted out of its crib, walked about the room, or put down again.

However, not infrequently, the beginning of acute disease is marked by a certain form of collapse, in which the child may lie stupid and inattentive for hours at a time. In prolonged illnesses, where the exhaustion is great, and in severe acute conditions, the child may lie with its face turned toward the ceiling, at times scarcely breathing.

If a child attempts to assume a sitting posture while ill, it is usually an evidence of difficulty in breathing, probably as a result of some inflammatory condition of the respiratory tract.

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If a child sleeps with its mouth open, and head thrown back, it is likely that he may suffer from some enlargement of the tonsils.

A constant desire on the part of a child to bury its face in a mother's lap, or in the pillow, often indicates irritation from the effects of light in the eyes, or even the beginning of some inflammatory process.

THE COLOR OF THE SKIN

The color of the skin is very frequently a definite index to the state of the child's health. When discolored and yellow, it usually indicates some disorder of the liver, or gall-bladder, of which jaundice is a prominent symptom.

If the skin of the face is of a bluish cast, it may indicate deficient aeration of the blood, or inability of the heart to pump the blood with sufficient vigor to the extremities.

When the digestion is disordered, there is very frequently a purplish tint around the mouth and the eyes. The veins of the face are prominent, while those over the forehead stand out in delicate blue tracery.

In sickness of the stomach, there is very frequently a pale circle observed around the mouth.

I have already spoken of the earthy hue which the skin takes on in chronic diarrhea. A pallor of a similar character is observed in other conditions in which the blood is impoverished, as in Bright's disease, marasmus, etc.

High color, with a hectic flush, always accompanies fever, and may frequently be seen in older children as a result of chronic indigestion.

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WHAT GESTURES TELL US

Careful observation of the baby's gestures may often help us locate the seat of pain, for the infant unconsciously places its hands near the affected part. In painful teething, or inflammatory conditions of the mouth, such as thrush, or sprue, the infant may continually put the hand to the mouth. With earache, it puts the hand to the ear; and in headache it raises it to the head.

Often the approach of convulsions may be foretold by the fact that the thumbs are drawn tightly into the palms of the hands, while the toes are held stiff and straight.

Squirming, drawing up of the legs to the abdomen—if accompanied by kicking and crying—is an almost certain indication of colic. This is observed particularly if the symptoms come on without warning.

WHAT THE FACE TELLS US

Notwithstanding the tendency of young mothers to read into the faces of their children the expression of intelligent emotion, healthy young babies show but little play of features. Their normal expression is one of intense interest, and any deviation from it indicates possible trouble.

In most toxic conditions, especially when accompanied by fever, the face is somewhat swollen and flushed. The child has a stupid, heavy look.

The wrinkling of the forehead frequently denotes pain.

If the *allae*, the edges of the nostrils, move in and out with the respirations, it may be that the child is

developing pneumonia, but the temperature, respiration rate and condition of the lungs may fail to confirm this diagnosis. If the eyes have a tendency toward strabismus, or crossing, there is grave danger of approaching convulsions. (See also "What Gestures Tell Us.")

If the baby chews vigorously during sleep, smacking its lips, some disorder of digestion may exist. If there is a tendency toward exhausting perspiration, it may indicate some form of malnutrition.

ADENITIS. Adenitis means inflammation of glands. In children particularly the condition is usually a lymphadenitis—*inflammation of one or more lymph nodes or lymphatic glands*. It may be acute, sub-acute, or chronic.

The acute form almost always follows inflammation of the parts which are drained by those lymph vessels that go through the affected gland. Tonsilitis and sore throat, infected wounds, acute fevers, etc., will be apt to produce an adenitis of the throat or neck glands. There are the same signs as in inflammation anywhere—redness, swelling, heat and pain—and pus may be formed, resulting in an abscess.

The chronic form usually results from tuberculosis, or long continued irritation in the immediate region, or the region drained by the affected glands. Other conditions causing the chronic form are lice, eczema, bad teeth, enlarged and inflamed tonsils, etc. In time, if the condition is not properly treated, there is usually a breaking down of the gland, with pus discharge.

The diet should be light and of natural foods, and every hygienic precaution should be taken to insure the

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best possible health of the child. Cool or cold applications and radiations from the mercury vapor sun lamp will also be of considerable value.

ADENOIDS. These sponge-like growths interfere very materially with health and general development, cause mouth breathing, and alter the shape of the dental arch. Many advocate their removal by curetting, but some physicians have developed a much superior method. This consists of lateral pressure against the body of the growth with a sterilized finger, done with sufficient suddenness and force to completely remove it. This method should not be attempted by any one not fully trained in the procedure. Proper breathing exercises should then be encouraged, as these will tend to keep the nasal passages open and prevent the recurrence of the adenoids.

Before resorting to an operation, however, it is advisable to try other methods. Exercise, sun and air baths, etc., will greatly stimulate the desire for and increase the supply of oxygen, and will also reduce the amount of toxic (poisonous) material in the system. It is essential that starchy and rich foods be reduced to a minimum. Sugar and candy must be eliminated entirely, though sweet fruits may be used. The bulk of the diet should be milk, fruits and fresh vegetables. Keep the bowels and skin active. Such methods will usually bring about reduction of the growths.

ANEMIA. Anemia is a condition in which the blood is poor in quality or insufficient in quantity. The anemic child is pale, but all pale children are not necessarily

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anemic. An opaque skin may give a child an appearance of paleness greater than that of a truly anemic child who has a delicate, transparent skin. The lips, gums and the mucous membranes on the inner surfaces of the eyelids are a better guide than the cheeks. These surfaces should be bright pink, and the blood should rush back to them immediately after pressure. In anemia the blood comes back slowly, and the color is only a very pale pink.

In childhood the condition usually results from an insufficient amount of fresh air, sunshine and the really wholesome, nourishing foods, particularly milk, and, in older children, fruits and fresh vegetables. It is usually a comparatively simple matter to increase the quantity and quality of blood in little children, and, from what has been said of the cause, the treatment should be easily determined.

If anemia results from adenoids or worms, or other specific illness or abnormal condition readily detected or discoverable, the causative condition must be given first consideration, and the proper treatment then applied for restoring the blood to normal.

BED-WETTING (Enuresis). This is sometimes an extremely difficult habit to break. Perhaps the best way is to take the child up late at night to urinate. Also it is necessary that fluids be restricted for several hours before going to bed, although plenty of water should be given earlier in the day, so as to relieve any irritation that might be caused by the presence of acid urine in the bladder. Milk, fruits and vegetables should

constitute the entire diet, as these foods overcome the tendency to hyperacidity of the urine.

It frequently happens that the habit of bed-wetting is formed or continued because of the fact that the child is anemic and in a generally run-down condition. In such a case it will be necessary to give the child plenty of nourishing food, and proper exercise in the open air. Phimosis, or worms, each sometimes a cause of bed-wetting, must receive appropriate treatment. If the condition is found to be due to gastro-intestinal irritation, give a short fast or greatly reduce and simplify the diet.

Boils (Furuncles). Usually there will be little trouble in diagnosing boils on the surface of babies' and children's bodies, though occasionally large pimples may have somewhat the same appearance. Sometimes boils appear in "crops," though usually they occur singly. There may be a long succession of them, associated sometimes with a slow and gradual decline in the health of the child; while in other children there seems to be comparatively little disturbance of the general health.

When boils are occurring frequently, it is well to have the child carefully examined, especially as to the urine, as the condition is sometimes due to diabetes or nephritis, or to a focus of infection elsewhere. Appropriate treatment must be instituted for any of these conditions, when present. Other causative conditions are uncleanness, scratching, and a diet too rich in sweets, starches and proteins.

Hot boric-acid compresses, held by a tape over the

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boil when first noticed and kept moist with water, will hasten ripening and consequent opening and discharging. Or it may be lanced by a physician. In either case the opened boil should be gently but thoroughly cleansed with hot boric-acid solution and sterile absorbent cotton, and hot, wet dressings should then be applied at frequent intervals. The exclusive milk diet is valuable in bringing boils to a head and hastening the curative processes.

BRONCHITIS. Children under three years of age frequently have a bronchial catarrh, induced by bad hygiene, improper feeding, digestive disorders, rickets, malnutrition, teething, or poor ventilation, etc., and directly brought on, as a rule, by exposure, sudden temperature changes, "coddling," or a neglected cold. Acute infectious fevers frequently have this as a symptom, also. Broncho-pneumonia, or tuberculosis, may result from the condition if not properly treated.

There is usually a general lassitude with restlessness and fretfulness, slight fever (100° to 102° Fahr.), a cough and increased rapidity of breathing, with a rattling in the chest, and shortly an expectoration of a secretion that usually begins as a thin mucus and soon becomes a mixture of mucus and pus. Children too small to expectorate swallow this excretion, which may cause vomiting or diarrhea. If the condition increases, the fever goes higher and breathing becomes more difficult, and a bluish or purplish color of the skin and mucus membranes may be present. Proper treatment, instituted early, will prevent the sudden suffocation which is sometimes fatal. If the inflammation extends

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to the smaller air tubes, the outlook is less favorable in very small children and infants, but uncomplicated cases and cases in which only the larger tubes are affected usually recover fairly quickly. Bronchitis is sometimes mistaken for broncho-pneumonia, or for influenza; but in these conditions the fever is higher and the other symptoms more pronounced.

If the child feels like being up in the room, it should not be forced to remain in bed, though usually it will want to be quiet. There should be no restriction to the entrance of fresh air into the room, but the child should not be in drafts of air. Some recommend a cotton-lined woolen jacket, but any covering sufficient to keep the chest warm without restricting movements is satisfactory.

As the disease is usually the result of a toxic condition, body toxins (poisons) must be reduced, and this as rapidly as possible for safety. No food must be allowed except diluted acid fruit juices, and the child should be encouraged to take water freely. There will be no danger whatever to the child if this diet is continued for two, three, or four days, or until fever and severe symptoms have passed. Then only milk and fruit juices are to be given. Considerable lime water should be given by mouth, and the bowels should be cleansed by the enema, daily or twice a day.

Chest packs are very valuable, or mild mustard plasters may be applied two or three times daily, and allowed to remain on for five or ten minutes. Steam inhalations are excellent, and may be given under a tent, or a croup kettle may be employed. Alternate hot and cold applications to the chest are effective in reducing

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internal congestion, and are particularly valuable if there are symptoms of suffocation. In convalescence there should be daily air and sun baths, the body being completely nude, with friction, and tepid sponge baths. The diet should be confined to milk and fruit juices until complete health is restored.

CHILBLAINS (Pernio). Frost bite is another name for this condition; it is an inflammation of the skin and deeper layers resulting from a long exposure to cold. If of too severe a degree and not satisfactorily treated at an early stage, gangrene is a possible but not frequent complication.

The child should not be placed at first in a thoroughly warm room, but the temperature of the room should be slowly and gradually raised, *after* reaction has been established. To accomplish this, the parts should be frictioned with snow, or with towels soaked in very cold water. If a coma (toxic sleep) has set in, friction should be applied to the entire body. After the congestion has been relieved, cotton wool may be applied to the part, a hot drink given, and the child left to sleep naturally, with sufficient warmth but with plenty of air. The most rapid restoration of the tissues to normal will be insured by a full milk diet, and this may also prevent gangrene; but if gangrene seems inevitable a fast must be instituted. Surgical treatment of this condition will rarely be necessary in children.

CHILLS. A mere feeling of cold, with a temporary shaking, is not a chill. But if a child is exposed to cold or wet and *within a few hours* has the sensation of cold,

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with shivering, he probably has a chill, and possibly the beginning of a serious acute illness, as pneumonia, pleurisy, nephritis, typhoid fever, etc. These symptoms of chill may occasionally come on with no particular exposure. Constipation alone sometimes produces a typical chill. A septic, or pus infection, may give rise to the symptoms. Sometimes a sweat follows the chill, and usually this is a good sign.

In treating this condition one should bear in mind that one may be treating the first stage of an acute illness—in fact that this is quite likely to be the case—and that if this is treated properly, there will probably be no further development of the more serious condition. Artificial warmth, in the form of hot water internally and hot-water bottles and bags with plenty of blankets, externally, should be employed at once. If relief is not secured within a short time, it is best to give a rather warm enema, while keeping the little patient warm with hot drinks and hot blankets. These two or three measures will usually be sufficient for a small child, though a hot tub bath may be given to better advantage in some cases.

COLDS. “Colds” result both from under-nourishment and from over-nourishment. By far the largest number of cases come from too much food and too little fresh air and exercise. The greatest single cause, perhaps, is an excess of starches, sugars and candies. Oatmeal, or bread and butter, covered with sugar, lollipops and other sweets, cause an overloading of the blood with these elements, satiating the appetite so that the child will not eat a sufficient amount of the foods which

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would supply the needed minerals even if he has the opportunity. Exposure to cold or to a draft is merely the "flash in the pan" that sets off the dry powder already present.

A "cold" untreated, or maltreated, is very apt to extend from a mere eliminative condition to one of severe functional and even organic derangement, and from the mucous membranes of the nose and throat it may extend to the bronchi, lungs, pleura, kidneys, etc. The proper treatment of this all too common complaint is not drug laxatives, with gargles, sprays, swabs, etc., though the latter in mild form may be used. In the case of under-nourishment, the treatment should be a brief diet of fruit (for one or two days) followed by the full milk diet for a week or more; and, in the case of the over-nourished, a fruit and water fast for from two to five days, followed by fruit, milk and vegetables as a main diet for some time. Hot tub baths, or, better, wet-sheet or blanket packs to bring about perspiration, and these repeated daily, are especially eliminative and corrective. Two or three glasses of either hot or cold water should be taken while in either bath or pack, and if the pack is used the windows should be open. After the tub bath the child should be well covered in a thoroughly ventilated room. An enema should be given at the very onset, and should be repeated daily for at least the first three or four days. Friction baths may be given at any time. Equal parts of lemon or orange juice and honey diluted with water like a lemonade makes a very soothing "cough medicine," in case a cough develops during the cold. The child may drink it freely as desired. Lemonized or salt water may be

used for a gargle or spray to the throat. A little vaseline may be placed in each nostril, and the throat pack may be applied each night, the throat to be bathed in cold water the next morning when the pack is removed. An exclusive meat diet is sometimes useful in this condition. Mince top round of beef, allowing a quart of water to a pound, boil two to four minutes, and add salt and lemon juice. Drink the liquid and eat the meat as the appetite demands.

COLIC. Colic is almost invariably due to some digestive disturbance. For temporary relief it may be wise to give the child an enema, which will bring away the offending toxic material in the bowel, and afford an opportunity for the discharge of *flatus*. Sometimes all that is necessary to enable the baby to bring up the gas that causes its distress is to put it on or against the shoulder. It may be gently patted in the back at this time. If the gas is in the intestines instead of the stomach, it may be helped to escape by placing the baby on its abdomen and drawing the knees up underneath, so as to slightly elevate the hips; at the same time gentle pressure will be given by the thighs. This position also allows the intestines to somewhat straighten out, which helps gas to travel toward and out of the anus. A few spoonfuls of hot water is also an excellent treatment for this condition.

If the condition should become convulsive in its nature, it may become necessary to cleanse the stomach and to immerse the child in warm water, as directed under the next heading.

The child should be encouraged to drink plenty of

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water, preferably slightly warm, or at least not too cold, in order that the kidneys may be stimulated to throw off accumulated poisons in the system.

CONVULSIONS. There is nothing that strikes quite so much terror to the soul of a young mother as to see her baby go into convulsions. The condition is generally due to overfeeding, although a very small percentage of cases may, perhaps, be due to improper feeding, underfeeding, constipation, impure air or water, or lack of exercise.



In an emergency one may use various kinds of bottles as hot-water containers for maintaining the heat of the body. When using glass bottles, wrap them in towels or other cloth covering.

Whatever the cause, the first thing to be done is to put the child in a hot tub. Then try to induce vomiting. Hold the child face downward. Put your finger down its throat, and thus force the stomach to empty itself. Next, raise the windows as high as you can; pure, fresh air contains the oxygen necessary to life. A child may die for want of oxygen and the energy secured from it. Keep the child warm. Use hot-water bottles, clothing, or whatever may be necessary.

The hot abdominal pack should next be used. Hold an ordinary bath-towel by its two ends. Immerse as

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much of the towel as possible in boiling water. Wring it as dry as you can, and then, after folding it into the proper size and shape, wrap it, hot and moist, all the way around the child's little body from hips to arm-pits, next the skin.

Be careful not to burn the child, but apply the towel as hot as can be borne. In case of fever, a cold towel way around the child's little body from hips to armpits, will usually induce such profuse perspiration that the body temperature will be quickly reduced.



In the application of a spinal pack, the towel should be immersed in hot water and then wrung almost dry as in the case of an abdominal pack. This has an extraordinarily quieting effect on the entire nervous system.

A hot-water bottle to the back will increase or prolong the efficiency of either a hot abdominal or spinal pack. If a small amount of hot water is put into a hot-water bag, the child can lie on it advantageously.

Preceding the hot pack a high enema should be given, using the *smallest* size of rectal tube, which should be freely oiled or greased. This will be found valuable in helping to cleanse the lower bowel.

Then let the child rest. Too much treatment, or incessant coddling or handling, by interfering with rest, may cause death.

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When the doctor comes your efforts in meeting the emergencies will usually be commended, and if he understands that you prefer to avoid medicines in treating your child, your wishes will usually be respected.

You cannot afford to risk the effects of medicine on the delicately adjusted nervous organism of a child.

If the means suggested have not entirely relieved the symptoms, use daily the hot abdominal pack for two or three hours in the morning and a hot spinal pack in the evening. You can depend upon the hot spinal pack for putting the child to sleep.

How to apply the Spinal Pack. In the application of a spinal pack, the towel should be immersed in hot water and then wrung almost dry, as in the case of an abdominal pack. Then fold the towel over until it is about the length of the spine and about five to six inches wide. Apply it the full length of the spine as hot as it can be borne without burning. This has an extraordinarily quieting effect upon the entire nervous system.

Remember that the effects of the hot packs can be increased and prolonged when desired by applying a hot-water bottle to the spine.

In an emergency, one may use various kinds of bottles as hot-water containers for maintaining the heat of the body. When using glass bottles wrap them in towels, or other cloth covering.

When a child is suffering from convulsions, or in other conditions in which the pulse is weak, face pale, hands and feet cold, lips and nails blue, a hot bath will help bring back the blood to the surface of the body, thereby relieving the pressure on the heart and other internal organs. Some like half a teacupful of powdered mus-

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tard added to the bath water, claiming that it often serves to stimulate a quicker reaction.

The temperature of this bath should not be over 105 degrees—taken with a bath thermometer, or else gauged by immersing the elbow, as explained in Chapter IV.

The bath should be warm but not hot enough to create discomfort, for this may result in most serious immediate or after effects.

Don't be afraid to empty the stomach immediately. I cannot too strongly impress upon young mothers the fact that prompt action in emptying the stomach of a child in this condition has saved countless lives—and that failure so to do has been responsible for quite as many deaths.



A hot-water bottle may be applied against the back as shown, or against the abdomen, to increase or prolong the efficiency of a hot spinal or abdominal pack. If a small amount of hot water is put into the bag, the child can lie on it advantageously, either on the back or abdomen.

Dr. R. Lincoln Graham in discussing this matter says: "Children vomit readily; therefore, a cup of salt and water swallowed in a feeding bottle and vomited out is a very efficient cleanser of decomposing stomach contents. While again, half a cup of warm salt solution

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will usually carry off any irritating content of the bowel, if properly administered.

“On the other hand, soothing or quieting medicines at the best only mask the condition and permit its consequences to become even more grave by interfering with Nature’s efforts to eliminate the disease. I recall a recent case of early vomiting in an infection of measles. In this case soothing syrup was administered and the child passed into coma. Fortunately, I was able to keep the kidneys and skin active, and the third day was rewarded with a general eruption of the disease.



In case of sudden illness, first cleanse the stomach. This illustration shows the quickest, and most practical and effective method of accomplishing this object. Lay the child over your knee, or place one hand under the stomach to assist in the process of vomiting. Insert one finger in the throat until vomiting is produced, continuing until the stomach entirely rids itself of its contents.

“It is of but little significance for

a child to vomit. During early life the stomach is in a vertical position, and readily throws food upward. Where the vomit is sour and curdling, force water into the stomach by drinking. Then by vomiting this water the stomach will be cleaned."

This is excellent advice, and is exactly what I have advocated for upwards of twenty years.

CROUP. Croup is a catarrhal inflammation of the larynx, marked by difficult and noisy breathing and a loud, hoarse, crowing, metallic cough. The paroxysms usually come on at night, the child awaking with a feeling of suffocation. Exposure to cold and wet is likely to bring on the trouble, especially when there is indigestion, or when the child's health is below par. The outcome is generally good.

When the attack comes on the child should be placed in the fresh air at once. Disregard drafts, but keep the child covered and protected, of course. The feet and hands should be placed in hot water. Sometimes the face and chest may be splashed with cold water; a cold compress applied to the throat is beneficial, especially if fever is present. If there is no fever, it might be better to apply hot packs to the throat and chest. A level teaspoonful of salt in a glass of water makes a good emetic, which is sometimes advisable. Have the child drink as much as possible of the glassful. Complete immersion in a full hot bath will bring quick relief in unusually severe spasms. A tent may be constructed over the bed or crib and steam generated under it, for the child to breathe. I have known several cases in which a teaspoonful of ordinary kerosene given by

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mouth has started a child toward ease and comfort within a few minutes. The bowels should be irrigated. Give no nourishment whatever during the paroxysm, but give either hot or cold water in large quantities as soon as the patient will drink.

During the intervals between the attacks the general health must be looked after. The diet should be made up mostly of milk and other natural foods, and as soon as possible outdoor exercise, with air and sun baths, should be taken.

DANDRUFF. This condition gives some mothers considerable trouble and worry. The dandruff may take the form of bran-like flakes that constantly cover the child's garments, or there may be a lot of greasy scales filling the hair and covering the scalp. When large patches occur on the scalp the condition is called "milk crust." There must be careful cleansing of the scalp and hair, and a solution of boric acid may be used effectively. If warm olive oil is rubbed into the hair and scalp, it will soften the scales, and warm water and pure castile or tar soap may then be used for cleansing. A very soft hair-brush may be used gently, but no coarse brush and no fine-tooth comb. For the dry scaly dandruff use oil frequently, and bathe with very soft warm water and tar soap.

DIARRHEA AND ITS MEANING. One of the most frequent of all troubles of infants and young children, and one of the most difficult to manage at times by the present inadequate methods employed by mothers, is diarrhea. The most frequent cause for this trouble is

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indigestion, and the improper selection of food. Many cases also result from taking cold, or from exposure to torrid temperatures. This condition is, therefore, extremely common in bottle-fed babies—always more susceptible to this trouble than those who are breast-fed, in the summer-time, or when there are rapid changes of temperature to deplete the vitality.

Diarrhea may rightly occasion a very considerable degree of anxiety on the part of the young mother, because of the fact that when acute it drains the fluids from the body at an unbelievably rapid rate, causing the tissues to appear shrunken and livid, and in certain instances, involving an alarming loss of weight.

Not infrequently, if the condition persists for any length of time, the blood may become impoverished. The skin may take on an earthy hue, with a sallow, livid complexion.

In all cases of diarrhea, careful local washing should follow evacuation of the bowels, so as to prevent irritation of the parts from the excoriating discharges.

The number of passages may vary anywhere from four or five up to thirty or forty within twenty-four hours. The character of the stool differs from the normal by being greenish, whitish, yellow-green, or clay-colored. It may be semi-liquid, or very watery; it may be exceedingly offensive, or quite odorless; it may be small in size, or so copious as to cause wonder that the child's body could have held such an amount. Blood and mucus may also be present.

In dysentery, which is another name for inflammatory diarrhea, the passages are exceptionally frequent and composed largely of mucus; or they may also contain a

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considerable amount of blood. In these conditions, when improperly treated, the tendency is for the infant to lose weight with an astonishing degree of rapidity, so that after twenty-four or forty-eight hours he may appear wrinkled, shriveled and old, with cold, clammy skin, and every aspect of extreme emaciation and weakness. This is because of the heavy loss of body fluids; but with the correction of the diarrhea these fluids can be restored easily and quickly.

The common-sense treatment of diarrhea. Inasmuch as diarrhea is an effort on the part of Nature to rid the system of irritating poisons, it is obvious that our first duty should be to stop all food, and give Nature a chance to evacuate the poisons from the bowel.

Nothing but plain water should be given, therefore, until the bowel has had a chance to empty itself of its poisonous contents. Never give paregoric, laudanum, or opium to any child suffering from diarrhea or any other disturbance or disease. They kill pain and mask true conditions.

The chalk and bismuth mixtures which are so frequently recommended in these conditions, are merely palliative in their nature, and do not really attack the cause of the condition at all. It is better to avoid these.

If the baby is bottle-fed (and most loose-boweled babies are so fed), the sugar should be omitted and the fat in its milk modification reduced, as explained in the chapters on feeding.

DIPHTHERIA. Diphtheria is one of the most dreaded of "children's diseases." It is an acute infectious disease of the mucous membrane, usually affecting this tissue of the pharynx, and many times of the larynx. A

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false membrane forms over the tissue affected, and the so-called specific germ of diphtheria is found in this, frequently in large numbers. But many people have these germs without developing the disease symptoms, and whenever they are found the obnoxious diphtheritic antitoxin is given.

The general symptoms may be mild or severe. Chilliness, vomiting, or convulsions, may usher in the disease, and there are usually sore throat, a temperature of 101 to 103 degrees, and a feeling of loss of energy. In about five days the disease is at its worst. From the second to the fourth day the false membrane appears on the tonsils and spreads to adjacent surfaces. This adheres very closely, and leaves a bleeding surface if forcibly removed. Appetite is lost, the pulse is quick and weak, and the glands at the angle of the jaw are swollen; albumen appears in the urine, and there is extreme prostration. After seven or eight days the symptoms begin to gradually subside, but convalescence is apt to be slow, the heart action remaining feeble for a number of weeks.

The outcome is uncertain, for many severe cases recover while slight cases may terminate fatally, or result in paralysis of some of the muscles. How much of this damage can be laid to the use of the antitoxin can not be estimated, but it is my firm conviction that its use is not beneficial.

The treatment for diphtheria should be centered at first on elimination, *even before it is possible to make a positive diagnosis*. This is the surest way of avoiding the actual disease. The bowels should receive a thorough flushing, but the amount of water used must depend

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upon the age of the child. Some oil, such as olive oil, should be given by mouth. It is necessary to isolate the child at once as much for its own good as for the possible protection of others. There must be few furnishings in the sick room, for cleanliness is imperative. The patient should be in bed if his inclination favors lying still, and should be given absolutely no nourishment, except, possibly, a very dilute fruit juice, as lemon, orange, or grapefruit juice. But he should have large amounts of water, preferably hot, though quite cold water may be sipped, or held in the throat, when the swelling and inflammation are severe. Water should be kept steaming in the room. The nose and throat should be sprayed with peroxide of hydrogen twice daily, and a gargle of lemon or salt water may be used to advantage.

For skin activity, a hot wet-sheet pack or a hot-blanket pack given daily will be very effective. If throat symptoms are serious at any time, hot packs should be applied around this part, and small pieces of ice kept in the mouth or swallowed, or ice water slowly sipped. In cases of this and all other serious illnesses of childhood, a physician should be called, as a little life may be at stake. But if possible secure the services of a physician who leans toward natural treatment. Unfortunately there are far too few such physicians, but their number is growing.

EAR DISEASES. *Impaction of Wax* in the ear may result from an increase in its production, or from a retarding of its escape. It usually produces no pain, but does produce dizziness and head noises, deafness, and usually a cough. Syringe the ear with warm water, or

remove the packed wax very carefully with a small applicator or tweezers, if it is hard and near the outlet. If these methods seem ineffective, a little warm oil may soften the wax, after which the syringe will remove it. After its removal, put a small amount of absorbent cotton gently into the ear.

Inflammation of the External Orifice is usually associated with fever, great pain, some deafness, ear noises, and perhaps delirium and nausea. These cases frequently require the doctor's attention. Painting the parts with carbolized glycerine, or bathing with a boric-acid solution helps. It is doubtful if hot compresses are safe, and it is perhaps better that they be omitted from the treatment. General health must receive attention.

Inflammation of the Middle Ear. Acute purulent inflammation is a condition in which pus develops, and may result from an improperly treated or untreated, simple catarrhal inflammation, especially if it is due to or associated with a fever. The pain is usually quite severe; head noises are loud and disturbing; hearing is reduced; and fever usually develops, if not present from other causes. Dry heat is to be applied externally. Warm water may be dropped into the external ear. Boric-acid solution may be sprayed into the nostrils. If pain lasts for longer than six or eight hours, it may be necessary to have a physician lance the ear drum, to allow escape of the pus. This is rarely desirable, however. A full milk diet will usually bring a safe recovery without the use of the knife.

Both the catarrhal and purulent forms may become chronic. These conditions must be taken care of by a

physician, as must any inflammatory process extending from the ear.

ERYSIPelas, (St. Anthony's Fire). This is an acute inflammation of the skin and deeper tissues, the symptoms being, usually, a sharply outlined, shining redness over the bridge of the nose, which spreads in a butterfly shape over the cheeks. There is swelling, with considerable pain; little blisters appear, and fever, headaches, and general weakness develop. The neck as far down as the collar line, the ears, scalp, and, in a few cases, the forehead may all be involved. The disease develops when the health and vital forces are lowered, and starts from wounds, skin abrasions, or nasal infection. Usually the condition is safely controlled and remedied by the right methods.

Treatment should begin with a high enema, and two or three glasses of hot salt water containing some lemon juice; or olive or mineral oil may be given. No food should be allowed for three or four days except strained fruit juices, or hot weak barley water, or thin strained oatmeal gruel. Cold boric-acid compresses may be kept continuously over the affected areas. Sometimes Epsom salts may be substituted for the boric acid with excellent results. A dressing of starch powder may also be used in light cases, or toward the end of the inflammation. A milk diet as soon as the appetite returns is advisable.

GERMAN MEASLES (Rubella). This is probably the mildest of acute infectious diseases. There is a slight inflammation of the mucous membrane of the eyes, nose,

mouth and pharynx, with enlargement of the lymphatic glands of the neck, a slight fever (about 100 degrees), and a reddish rash somewhat resembling that of measles but less elevated—some of the eruptions being merely spots. The chest and face first show the rash, which then spreads over the body, usually in twenty-four hours. Rarely are there complications.

It is not necessary to confine the patient to bed, but as the disease is considered highly contagious he should be kept isolated in a room for two or three weeks. Olive oil is sufficient as a laxative, and the enema should be used for the first two or three days, at least. Give only acid fruit juices during the fever. Spray or gargle the throat with boric-acid solution. The milk diet should be used for at least a week after temperature is normal.

GROWING PAINS. There is probably no such thing as a growing pain, for growth is so natural that there should be no disturbance whatever during the growing period. But there are pains of a neuralgic or rheumatic nature that are considered such, because no better name has been found for them. These pains are sometimes called "infantile rheumatism," and may be associated with tonsilitis, heart symptoms and fever. They occur sometimes as early as seven years, but usually end before sixteen. Their location is near the ends of the long bones. Rapid growth is usually taking place at the time (which accounts for the name), and there is not infrequently a fever. The pains are probably due to metabolic disturbances, as the appetite is immoderate and unregulated at this period. This would account for

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the general constitutional disturbance associated with the pains. Hygienic conditions must be looked after carefully, and the diet should consist largely of fruits, vegetables and milk, with practically no meats, a minimum of starches and no pastries or sweets. There must be fresh air and sunlight, and natural play for exercise. No special treatment is necessary.

GUM-BOIL (Parulis). Occasionally at the foot of a diseased tooth an abscess will form, causing the face to swell. Usually the abscess will rupture of its own accord, but a dentist or physician will sometimes advise lancing to afford quick relief. Some physicians advise a little tincture of iodine swabbed over the swollen gum, and warm or hot water may be held in the mouth, or a hot-water bag may be applied to the cheek.

HEADACHE. Frequently very young children make known the existence of headache by holding their little hands to their heads. Older ones may say their head hurts. Some have learned what a headache is. This is not a very common symptom except as an initial symptom at the onset of some acute disease. Other conditions causing headache are constipation, digestive disorders, defective hygiene, sinus trouble, protracted colds, nervous troubles, anemia and insufficient oxygen. It must be remembered that the headache is only a symptom. The treatment must be directed to the cause, and when this is removed the headache usually vanishes at once. Improvement of the hygiene, elimination by enemas, reduction or satisfactory alterations of the diet, general body packs, with hot foot and hand baths and

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the application of cold to the head, will usually prove effective in giving relief.

HEART WEAKNESS. It is very important to make as early a diagnosis as possible of a heart weakness or disease, as it may be possible to practically or completely cure the condition. A child with marked disturbance of this organ is usually anemic and pale and adverse to activity. Without exactly being ill, he will be indisposed to exert himself.

Cold extremities are noticed, and the lips are ashy grey. The breath is short and the heart palpitates, pulsations showing externally on the chest or abdomen. There may also be pain over the heart, digestive disturbances and swollen feet. Conditions may not be such as to lead a mother immediately to a positive diagnosis, and the symptoms may fluctuate as improvement in general health is noticed, or when the child is below par.

Treatment should be directed toward removal of toxic elements and the reduction of all strains on the heart. Superficial circulation should be improved by tepid baths, and by air, sun and friction baths. The fruit and milk diet is best to insure freedom from digestive disturbances. Exercises that are not strenuous or straining are helpful rather than harmful, after acute symptoms are relieved.

HERNIA (Rupture). In infants usually the only kind of hernia that has to be considered is the umbilical hernia—appearing at the navel. It develops usually a few weeks after birth, and may be due to natural weakness of the abdominal wall, a strain in being lifted, exer-

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cise too vigorous for an infant, cutting the umbilical cord too soon or too short, digestive troubles which distend the abdomen, or to an infection of the navel. Severe and protracted crying spells may bring on hernia, if the tendency is there. The only sign is an enlargement at this point from the size of a marble to that of a small egg.

Many of these hernias are corrected naturally, but it is best to give aid to insure complete reduction and correction. For this purpose a large button slightly beveled on one side, or a round metal disc or plate that can be padded on one side, should be placed bevel-end down, over the prominent part of the hernia, and held to the body by adhesive strips going half-way round the sides. It is better, however, to attach a loop to each side of the button, and run wide-webbed elastic through these; then attach these elastics to adhesive tape, which may be extended almost to the middle of the back on each side. Sometimes the elastic may be passed completely around the little body and just a small strip of adhesive extended across this at each side, so as to keep it in place. The elastic permits full breathing without interference. Or a wide adhesive tape may be placed on one side of the hernia, the hernia reduced, and the skin from the opposite side drawn completely over the protuberance, the tape being then secured to that side. Cleanliness must be observed, and the garments must not constrict, and thus aggravate the condition. A very large hernia may require a special truss, but this is usually not necessary. As soon as the child is old enough, it should be taught to take special exercises for

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strengthening the abdominal wall, so as to prevent trouble in future years.

In older children inguinal, femoral, and all other forms of hernia except umbilical, may develop from the same causes. These hernias are sometimes dangerous, for the intestines may protrude and become strangulated. This latter condition calls for prompt action on the part of a physician or surgeon, though the knee-chest position (resting face downward on the knees and chest), or a fairly large enema, may bring about a reduction. A hernia should not be neglected, unless it is plainly a very slight and insignificant condition. A truss may be required, but in children special exercises for the abdomen, if persisted in, will usually correct the condition, providing the diet is such as to keep the bowels active and prevent gaseous distention of the abdomen.

HICCOUGHS (Hiccups). This condition every mother has noticed, in children, as well as in adults. It is a nervous spasm of the diaphragm, due usually to digestive disorders. Most attacks pass off without treatment. But if an attack should continue for some time, have the child hold its breath as long as it can. There need be no fear that it will hold it too long, for that is impossible. Or have it drink ten to twenty swallows of hot water—or sometimes quite cold water will work better. If it is too young to do this, catch its tongue with a napkin and pull it gently far forward. Quite warm applications over the abdomen, or on the back of the neck, frequently stop the attack. A little cracked ice or ice-cream, has been used successfully in some cases. Pressure over the upper abdomen with the

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fingers or flat of the hand will almost always stop the attack, and a very broad, tight belt around the waist, which is drawn tighter and tighter until the paroxysms cease, usually brings quick relief.

HIP-JOINT DISEASE. This is a tubercular disease of the hip-joint, rarely diagnosed before it has reached the chronic stage, or at least until considerable inflammation has brought about a decided change within the joint. The condition often recovers of itself, but the age, complications and treatment greatly influence the outlook. Heredity and joint injury are two important factors influencing the onset of the disease. Spasms and atrophy of the muscles, deformity and limping, pain (usually referred to the knee), and swelling of the hip and glands about the hip and groin, are the main symptoms.

The first deformity is a drawing up of the thigh toward the abdomen and of the calf of the leg toward the thigh. At this time the knee is held outward, the leg appearing longer than the well one. Night cries, abscesses and a general decline are usually among the symptoms at this stage. Later the knee is held inward across the well extremity, the great toe resting on the instep of the well foot. The leg is then actually shorter than the well one.

The hygiene must be improved in every way possible.

The child should be kept on a fairly hard bed. Sun baths to the nude body should be given daily through an open window, or out on a mattress in the open, and the patient should never be deprived of fresh air. A bed on the porch, or in a sun-parlor, is best for this

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treatment. Cool general body baths are to be recommended. Hot-water bottles or hot packs are of value.

Change to a cooler and drier climate is sometimes valuable, but should not be necessary if the remainder of the treatment is proper. An abundance of milk is the best possible diet for this condition, but orange or grapefruit juice is also valuable and should be given daily. Usually some sort of splint, or a cast, is applied to hold the joint immovable, but I believe that if the diet and other care of the little patient is as it should be these casings will not be necessary. But sand bags may be placed at the side and between the thighs to keep the motion of the affected hip limited to some extent. As in all serious disease conditions, however, it is best to have a thoroughly trained physician on the case.

HIVES (Urticaria—Nettle Rash). This is a digestive disorder showing almost entirely in a temporary inflammation of the skin, with whitish and pinkish elevations and extremely severe itching and burning. It results from eating certain articles of food, as shell-fish, strawberries, salt pork, etc., by those individuals having a constitutional incapacity to deal with such foods (known as an idiosyncrasy), or occasionally from digestive disturbances of undetermined origin. The eruptions usually appear and vanish quickly, though occasionally they will remain for a rather extended period of time, and may leave small blisters or darkened spots.

The treatment consists of a thorough flushing of the bowels by high enemas and an emetic of warm salt water. A saline laxative will usually cause the symptoms to subside almost as soon as it is effective, but no food

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should be allowed within twenty-four hours after the laxative. An abundance of hot water and a small amount of diluted fruit juices will often clear the trouble in a few hours, even without the laxative. Slightly cool tub baths will soothe the itching and burning, but a hot tub bath, wet-sheet pack, or blanket pack to bring about a profuse perspiration will hasten relief. It is always necessary to avoid the particular food or foods which experience points to as the cause of the disturbance, and to guard against constipation and intestinal toxemia.

INTESTINAL OBSTRUCTION. In children, obstruction of the passage of fecal matter through the intestines usually comes on suddenly, in the condition known as *intussusception*. In this instance one part of the small intestines folds back within itself, so that it is apparently "swallowed" by the other part. Pain develops suddenly and continues; there is a constant, urgent desire to go to stool, and a frequent diarrhea with bloody mucus. At an early stage there is vomiting of intestinal contents. Though the seat of the trouble is in the small intestines, the bowel not infrequently protrudes from the rectum. The pulse is usually very weak, and the temperature subnormal.

When such a condition develops, all food must be denied, and it is best to irrigate the stomach and intestines. Sometimes a large enema may dilate the intestines sufficiently to allow the smaller part to slip out of its retaining section. Air or hydrogen may also be used (by a physician) to inflate the intestines, with the same idea in view. Placing the child in the knee-chest position, or holding its hips, or even the entire lower

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part of the trunk, above the shoulders, may prove successful. Or an operation may be necessary.

JAUNDICE. This condition shows as a greenish tint to the skin, the eye, or the mucous membranes of the mouth. If it develops during the first week of a child's life, as it is very apt to do, it means nothing that need cause anxiety, and at this time the urine leaves no stain. If it arises later, it is more serious, and the napkins will be stained with a highly colored urine. An enema should be given and food should be withheld for a day or two. No other treatment is necessary.

LEUCORRHEA. A discharge sometimes appears from the vagina of little baby girls, but the mother need not be anxious over this. Usually it will disappear when the nourishment and general strength of the child improve, though it is sometimes due to accident, or to constipation, or to pin or thread worms. Occasionally it is due to an infection and is then more serious. Cleanliness will reduce it, and should be thorough. Small injections of boric-acid solution may be given, and an ointment of boric acid may be applied to the external parts.

MARASMUS (Infantile Atrophy). This is a simple wasting occurring in children, without necessarily a constitutional basis, such as syphilis or tuberculosis, though one or the other of these conditions frequently underlies the developing of the atrophy. It is quite likely to be a form of intestinal toxemia, resulting from improper feeding, plus bad hygiene. Extreme emacia-

tion results, as in starvation, and the child is wrinkled, and appears old and worn. Unless proper treatment is instituted, the natural tendency of the condition is toward a fatal end. But if the proper treatment is begun at once the chances for recovery are good.

This is a case in which breast milk should be used if at all possible, and a wet nurse may be necessary. In some cases cow's milk may be successfully modified to meet the demands, but foods prepared without cow's milk are never satisfactory. The child should be placed in the sun and fresh air daily, and must have plenty of fresh air at all times. A daily bath of slightly warm water and a massage with oil are all-important factors of the treatment. The clothing must be warm, but not such as to suffocate the skin.

MEASLES. Measles is considered one of the most contagious of all diseases, but children under six months are not liable to "catch" it. One attack usually prevents future ones. The first symptoms are a discharge from the nose, as in a "cold in the head," tears from the eyes, a dread of light (photophobia), cough, fever, and general lassitude, with sometimes convulsions. Most of the mucous surfaces of the body are likely to be involved. Even before the symptoms of catarrh develop, and during the early fever and weariness, little spots called *Koplik's spots* appear on the mucous surfaces of the cheeks and lips. These are tiny red spots with bluish white centers.

If these spots are discovered, it is best to isolate the child immediately in a more or less remote room, but one where fresh air and sunlight can enter freely. It will be

necessary, however, to keep the child's eyes covered, or shielded with smoked or blue glasses; otherwise injury may result. The temperature may fluctuate during the first three days, but rises before the appearance of the skin symptoms; these appear first on the neck and forehead, then extend to the trunk and extremities. The skin eruption takes the form of spots that are bright red at first, about the size of a pea, or smaller. Later the color darkens and the spots run together. Constipation develops and the urine, frequently passed, is dark and heavy. The nasal discharge increases, expectoration becomes copious, the fever subsides, and the skin finally peels off in branny scales.

Proper treatment will prevent any serious complications or after-effects. Food must be withheld, but an abundance of hot or cold water must be given, preferably with fruit juices. A wet-sheet pack should be applied once a day, enough to insure a good perspiration. Continue the pack an hour or more, and follow with a quick cool sponge bath. A daily enema hastens improvement, and two or three tablespoonfuls of olive or mineral oil given morning and evening will improve bowel activity. This treatment will greatly lessen the severity and shorten the duration of the disease. During convalescence a milk diet, with fruit juices, is best for restoring strength to normal and preventing serious after-effects.

MUMPS (Parotitis). This is a swelling of the parotid and, rarely, of the other salivary glands, and is considered highly infectious. After two or three weeks following exposure the patient exhibits weariness, fever

and usually headache, and sometimes there is vomiting. The swelling then appears at the angle of the jaw and in front of the ear, on one or both sides, and interferes with speaking, chewing and swallowing. There is usually no severe pain in the gland, with the frequent exception that pain is felt when some acid is taken into the mouth. Boys seem to be more susceptible than girls, but infants are not frequently affected—at least to such a degree as to insure a diagnosis of mumps.

It may be well to isolate the patient for two or three weeks, but this is not usually necessary. Rest in bed during the fever and height of the disease is usually better, but if the room is warm and the child feels like being up and about in the room, there is no danger in allowing this. Water only should be given for the first few days, with fruit juices, well diluted, if they do not cause pain; otherwise a very thin, strained oatmeal gruel or barley water may be given. Olive oil in table-spoonful doses should be given night and morning, and a warm enema administered once daily for three or four days. Warm oil gently rubbed in over the swelling will ease the pain of the stretched skin. A fairly hot tub bath or sponge bath given daily will have a helpful effect, but there must be precaution against chilling. The milk diet is the best with which to follow the attack.

If the swelling “goes down” into the testicle, give warm, moist applications or hot sitz-baths, or apply petroleum jelly on absorbent gauze, and gently elevate the testicles. Do not rub or massage such a testicle. If the breasts of girls become inflamed, treat as the face swelling is treated, but avoid deep pressure. If the

ovaries appear to be inflamed, give external hot applications.

PARASITES. Practically the only parasites that disturb children are head lice, though they may have intestinal worms, which are discussed under that heading. Ordinary kerosene oil has long been used for the eradication of these parasites. After the application of the kerosene the head is covered with a suitable cap for twenty-four hours, then it is thoroughly washed with soap and water, and a fine-tooth comb used to remove the nits. Tincture of green soap, vinegar and other acids, diluted, are also used.

The latest preparation is xylene, a colorless liquid made from coal tar. This preparation not only kills the parasites, but penetrates and destroys their ova, or eggs; yet it does not produce any inflammation of the skin, though causing a sharp, burning sensation. It is best to dilute it with equal parts of alcohol and ether. Cotton is soaked in this mixture and each strand of hair run through the cotton; the scalp is also carefully gone over. This treatment will cure the condition in less than an hour, even when the hair is long. If there is eczema or scabs, soften these places first with vaseline, then apply a mixture of xylene and vaseline (two parts of the former to fifteen of the latter) to the scalp and hair. The next day thoroughly wash the hair and scalp, and then apply xylene, alcohol and ether in proportions before mentioned. The vaseline and xylene may now be used again. Then take a fine-tooth comb and remove all lice and their nits. The same preparation may be used for lice affecting other

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parts of the body, but it will produce a stinging sensation that lasts a few hours if applied about the scrotum, or the external genital organs of the female.

PIMPLES (Acne). These usually result from dietetic errors or uncleanliness. Pale anemic children, or the rather fat and ruddy ones, are more likely to suffer from pimples than are children of the types between. These eruptions usually appear on the face, neck and chest, and may exude either a blackhead or a small amount of pus.

It is necessary to reduce starches, sweets, proteins and fats in the diet of children so affected, and make the diet mainly milk, with fresh fruits and fresh vegetables for the children old enough to use such foods. For younger children a limited amount of milk with fruit is to be given. A comparatively large amount of water should be taken internally, and the enema may be employed occasionally. Hot and cold applications to the affected areas, and bathing with pure soap-suds, are usually effective, while entire body packs may give good results. Daily sun and air baths with body nude are also valuable. Dry friction baths are good, if the skin is not irritated too severely by them. Steam baths are especially valuable, and exposure to the rays of the Alpine Sun Lamp will prove very effective. There should be no "coddling" at any time, and fresh air must be allowed in abundance.

PINK-EYE (Acute Contagious Conjunctivitis.) This is a condition not infrequently seen in small children, and is considered to be an infection by a specific germ.

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At first there is considerable watery discharge from the eyes, with an intensifying of the pink color of the mucous membrane, and slight swelling of the lids, which feel as if sand were under them. Sometimes the eyes are sensitive to light. In two or three days the discharge becomes thick, frequently changing into pus; the lids are stuck together in the morning and after a nap, with sometimes a decided swelling and redness, and the nose usually becomes involved by the catarrh. Generally a few days sees the end of the symptoms, but several weeks may elapse before all signs are gone.

During the first stage it is well to apply cold compresses of boric-acid solution. The eyes should be shielded from light, by cloths or dark glasses, or the patient kept in a darkened, well-ventilated room. Later irrigation of the eyes with either hot or cold boric-acid solution is about all the special treatment needed. An enema should be given early in the disease, and the diet should be reduced to fruits and milk, or possibly light whole-grain gruels, with some soft vegetables. As soon as the pus discharge is noticed many physicians recommend the use of an eye wash composed of one grain of sulphite of zinc to one ounce of distilled water. Two or three days persistent use of this wash three or four times a day usually results in complete recovery.

PNEUMONIA (Pneumonitis). The form of pneumonia from which children suffer is called broncho-pneumonia, or lobular pneumonia. It is a catarrhal inflammation, first of the bronchi, and then of the working cells of the lung tissue proper. A simple acute form follows a severe bronchial catarrh; another form follows infec-

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tious fevers and other severe illnesses. Some areas of the lung are consolidated, and some are collapsed.

In older children the first symptom may be a chill. The onset is almost always sudden, and in young children convulsions are common. High fever (104° Fahr.), severe cough, respirations as rapid as one a second (sixty a minute), extreme difficulty in breathing, very rapid, weak pulse, blueness of the face, and cold extremities are the other characteristic symptoms.



The application of a hot, wet abdominal pack which, as shown in the illustration, covers the chest as well as the abdomen, being wrapped entirely round the body, and covered by a dry towel.

The treatment requires withdrawal of all food except hot acidulated drinks, or weak salt water; an enema daily; rest in bed; cotton or light wool over a linen jacket covering the chest; outdoor air or full ventilation of the room, but no drafts; sunlight directly on the child's body. If fever is very high, an air bath will help to reduce it safely. A daily wet-sheet pack with sufficient flannel to bring about decided perspiration over the trunk is of great value, especially if alternated

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with a similar one to the abdomen. A flaxseed poultice containing one and one-half drams of mustard may be applied to the chest on or after the fourth day, and renewed hourly for six to eight hours. When it is removed, bathe the chest quickly with a cool wet cloth and put on the linen jacket. This may be repeated the next day. Hot or cold chest packs may relieve chest pains.

Change the position of the child frequently from side to front, back, or the other side. This prevents too severe and serious congestion in any one part of the chest, which would endanger the little life more than necessary.

As in other serious childhood diseases, it is usually best to call in a physician; but if proper treatment is instituted at the appearance of the very first symptoms, it is probable that no pneumonia will develop.

After recuperation is well established, a milk diet should be used, gradually working up in four or five days from a very small amount daily to full capacity. Some acid fruit juices may be given also. After breaking the fast, guard against constipation by small enemas, but avoid these when possible.

PRICKLY HEAT (Miliaria). This is an inflammation of the sweat glands, appearing suddenly in acute form. The red elevations or blisters (or both) are very tiny and may be few or many, covering the neck and trunk, or wherever perspiration is greatest. There is a constant prickling, tingling, or burning sensation. Too much clothing and hot weather, with a heating diet, are responsible for the disease.

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It is necessary that the cause be removed or avoided. Clothing should be cool, porous knitwear being best. No wool should be worn. The diet must be considerably lighter than ordinary, and the bowels must be kept active. Cool sponge or shower baths daily are excellent, and the parts should be protected with a dusting of

powder or some pure talcum, after thorough drying. A teaspoonful of baking soda to the pint of water may be used as a local wash, or local applications of a lotion containing either carbolic acid, menthol, benzoic acid, or sodium bicarbonate, may be used to allay the itching.



How to prepare a hot pack. Illustrating the method of holding the ends of a bath towel while it is immersed in a pan of boiling water. Wring dry by twisting the ends in opposite directions.

RHEUMATISM. Children rather frequently (infants infrequently) have rheumatism of one or more joints, which become swollen, red and extremely painful. The muscles also become sore and stiff, and there may be symptoms of a nervous nature, or of heart affection. St. Vitus' dance, or heart disease, may result from the condition. Tonsilitis is not infrequently associated with the rheumatism, or may precede it. High fever is nearly always present.

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The treatment must be eliminative in character, and a fruit-juice fast is best for a few days. Disregard the old-fashioned and wrong idea that these fruits aggravate the disturbance. They appear to do so only as they are aiding the body to throw off the causative toxins more rapidly.

The enema should be used to thoroughly cleanse the colon, and much water should be taken daily, to increase kidney activity. Hot water is preferable to cold.

Fruit juices and milk should follow the fruit fast until all symptoms have subsided. Rest is usually required in these cases, on account of the pain, and of the heart disturbance. Dry heat applied to the painful areas is soothing and helpful.

RICKETS (Rachitis). This is a diseased condition of the bones in which they become softened and, as a rule, deformed, owing to a deficiency of mineral salts and vitamins in the food. Deficiency of sunlight is also a prominent causative factor. The muscles and ligaments become weak, and there are nutritional changes and nervous symptoms, as restlessness, beady perspiration of the head, disturbed sleep, and perhaps some fever. There may also be brief spasms or convulsions. The bones soften and become enlarged at the ends. This is especially noticeable in the long bones of the body, particularly of the legs, leading to bow-legs, knock-knees, etc. The teeth may not come in at the usual time, and then irregularly. The abdomen is generally enlarged and hollow-sounding, and constipation may alternate with diarrhea.

The proper treatment consists of correct feeding, and

not of fasting. Fruit juices for one day, and a thoroughly effective enema will cleanse the digestive tract and prepare it for the milk and fruit diet. Only raw milk should be used if this can possibly be procured, and lemon, orange and grapefruit juice should be given as desired, especially if it is necessary to use pasteurized milk. Scrapped apple, or prune pulp is also good. A few soft vegetables, as fresh peas, asparagus, and carrots, may be allowed, as may also a small amount of whole-grain products, prepared soft and served with a small amount of butter, or cream, with honey or raisins. Later the child's diet may be so regulated that it will be sure to receive a full supply of the mineral elements. As far as possible, uncooked foods should be used, and fruits and nuts with milk are especially to be recommended. Play out of doors is important. Sun and air baths, friction baths and tepid water baths are all excellent. Massage and electricity may be employed with benefit, either early or late in the treatment.

RINGWORM (Tinea). This is a parasitic disease of the skin that is gradually becoming less and less familiar and seems destined eventually to become unknown. Different parts of the body may be affected, but in young children it is usually the scalp that is attacked by the parasites, which form circular areas of eruptive scaly patches of yellowish color. Mild itching accompanies the affection.

Thorough bodily cleanliness will prevent the development of ringworm, and is therefore valuable in removing the condition when present. Frequent bathing with soap and water—green soap is especially good for the

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purpose—followed by applications of an ointment of powdered sulphur and olive oil, will in most cases bring about a cure within a short time, but it may be necessary in certain cases to secure other ointments. A program should be begun at once for increasing general bodily health and the resistance of the skin to attack by any parasitic disorder. Frequent air, sun and friction baths are to be strongly recommended.

SCARLET FEVER (Scarlatina). This acute contagious eruptive disease begins as a very sudden attack, with vomiting, chills, high fever (103° to 104° Fahr.), headache, sore throat, rapid pulse and the eruption. Convulsions may occur, with delirium. Prostration is usually marked. The tonsils and entire back part of the mouth and throat are usually red and congested, and dark red spots appear on the palate. First the neck and chest, and then the entire body, are covered with a bright scarlet rash, with quite severe itching and burning. This appears in from twelve to thirty-six hours, and reaches its height in about three days, then gradually fades. On about the seventh day the skin begins to peel off in scales, most noticeably on the hands and feet. This peeling continues for from two to five weeks. After about the fourth day the temperature begins to subside, and in five or six days is normal, if there are no complications. A characteristic symptom is the "strawberry tongue"—the red, enlarged elevations giving the tongue the faint appearance of a strawberry. There is no appetite, but considerable thirst, and sleepiness. The bowels may be loose or constipated, and the urine is reduced in amount and highly colored.

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Some cases are very mild, with only a rash, while others are extremely severe and may end fatally within twenty-four hours. Even the mild cases, as well as the usual and the severest forms, may become complicated with affections of the kidneys, middle ear, throat, heart, eyes, or joints; or chorea (St. Vitus' dance) may result. Proper treatment instituted early lessens the danger of the disease and of its complications. Acute kidney disease may develop in three or four weeks after the beginning of the malady.

Cases of this disease should be strictly isolated, and great care observed in disinfecting all garments and other things coming in contact with the patient, nurse, or room. The contagious element, whether from secretions, excretions, or scales, clings to wearing apparel, furniture, etc., and remains capable of causing the disease (in susceptible individuals) for a longer time than the contagious element of any other disease. For this reason, disinfection must be extremely thorough after the disease has subsided. The patient should be kept in bed and the room thoroughly ventilated. The bowels should be cleansed by the enema, and by olive oil internally, unless the latter causes disturbance in the stomach. The same strict dietetic precautions suggested under "Measles" should be taken in this disease.

SCURVY (Acute Rickets; Barlow's Disease). Infantile scurvy is constitutional and associated with errors in diet which have continued for a considerable period of time. Digestive disorders, sensitive bones, hemorrhages, swollen extremities and anemia are present, together with a general condition of malnutrition and

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wasting. The condition progresses slowly, and exhaustion may bring about a fatal end, unless proper treatment is given early.

This treatment consists, for breast-fed babies, of a change in the mother's diet, or a change of the child's diet to bottle milk. In the case of a bottle-fed baby there should be an alteration in its milk formula. Fresh milk modified as little as possible is the best remedy in most cases, and fruit juices, diluted or straight, may hasten the return to normal.

SMALLPOX (Variola). This is the most virulently contagious and infectious of all acute febrile diseases, and is typically a filth disease. It is becoming comparatively rare, but doubtless because of better sanitary measures and precautions, and *not* because of vaccination.

The most characteristic feature of the disease is an eruption that changes from spots to slight elevations, the latter becoming blebs or blisters, and later changing to pustules; these form scabs, which drop off, leaving the well-known depressed pock-marks. In most cases the eruptions appear scattered, but in others they run together; in still others they cause hemorrhages. This latter is the most likely to be fatal. Some cases are very mild, the eruptions not typical. The eruptions first appear (in the average case) on the abdomen, and spread to chest, neck and face, until the entire body may be affected, even the palms of the hands, the soles of the feet, and the inner surfaces of the mouth and nostrils.

A chill, with an intense frontal headache, a severe

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lumbar backache, nausea and vomiting, usually appear at the onset. Fever rises to 103° or 104° Fahr., by the end of the second day, and remains high until the papules appear on the skin, when it quickly falls several degrees. When the eruption becomes pustules, on the eighth or ninth day, the fever rises again, to about 105° . The face swells considerably, and the affected area is very painful. The papules, vesicles and pustules each last about three days. Laryngitis, broncho-pneumonia, pleurisy, and eye diseases may appear as complications. Fifteen to thirty per cent of the cases are fatal, but proper treatment, without vaccination, hastens recovery and tends to prevent complications.

The cases must be strictly isolated, and disinfection must be thorough. Patients should be in bed if the case is typical, or if the fever and general symptoms are pronounced. The bowels should be thoroughly cleansed by high enemas, preferably with Epsom salts in the water. The patient should also drink an abundance of hot or cold water flavored with any fruit juice that will add to its palatability. Absolutely no food except acid fruit juices should be given until the fever has subsided; saline laxatives are permissible in these cases. The daily wet-sheet pack, arranged to induce profuse perspiration, should be given. This pack may be prepared with milk instead of water, as milk helps to alleviate inflammation. If fever is very high, an evaporating sheet bath, or an air bath, may be given. The air in the room should always be equivalent to that out of doors, in amount and quality. Sun baths may help obviate pitting as the eruptions heal, and some advise the application of cold cream or vaseline for this pur-

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pose. A full milk diet given when the appetite returns will also favor the healing of the skin without pitting. This treatment will hasten recovery, and usually leave the patient at least comparatively free from disfigurement.

SORE THROAT (See Tonsilitis for treatment).

SPINAL TUBERCULOSIS. Most inflammations of the spine, especially in children, are tuberculous, though syphilis, rheumatism, and other diseases may be the cause. Usually an injury precedes the affection. The usual site of the trouble is a little below the center of the back, at the junction of the thoracic and lumbar vertebrae. The bodies of the vertebrae are inflamed; they soften, and usually the spine falls forward at the point of inflammation, allowing the posterior prominences to project backward in a protuberance, usually more or less to one side. Generally above and below this are compensatory curves in the opposite direction.

The spine is rigid, and the child usually shows signs of weakness. Pain and tenderness are also present. Pus is usually formed as the bone softens, and this may descend and appear at the groin in front (psoas abscess), or in the loin at the back (lumbar abscess), or it may ascend to the cervical region and form a retropharyngeal abscess. At any time spinal paralysis may develop, and in the later stages, inflammation of the spinal cord is not infrequent.

Treatment given for tuberculosis in general and for hip-joint disease should be employed. The patient should in some cases be confined to bed, and sand bags may be used as splints—having the child lie between

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these so as to prevent too much motion of the spine. This precaution is rarely necessary after proper treatment has been well begun. If the full milk diet, with fruit juices, is given, and the nourishment of the child kept up without the forming in the system of excess waste and systemic or intestinal acids, the condition will subside with the least amount of destruction of bone and development of deformity.

SPINAL CURVATURE. There are three forms of spinal curvature—lateral (called scoliosis), backward prominence (kyphosis) and anterior depression, a “sway back” condition (lordosis). Muscular weakness, faulty posture, under-nourishment, injury, or disease of the bones or joints, may be the cause. Heredity, general weakness, rickets, rapid growth, and a scrofulous condition all influence the deformity. The symptoms in all forms are the same—pain, spinal weakness, and general weariness. In lateral curvature one shoulder, or one hip, will be higher than the other, and the shoulder blade will be more prominent on one side.

If taken while the deformity is merely muscular, the condition can usually be cured; but if the bones have become deformed it is more complicated. A strictly wholesome, nourishing diet is necessary. Hygiene, posture, etc., must be improved in every respect. In practically every case muscular exercise will be the main factor in bringing about a correction. Ballet dancing and other exercises that involve every muscle of the trunk are of greatest value. Spinal stretching is excellent, especially if done sidewise (for lateral curvature) over a curved support. Naprapathic treatments, chiro-

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practic adjustments, or osteopathic manipulations, also prove beneficial in many cases.

STYE (Hordeolum). A stye is a circumscribed inflammation on the eyelid; in fact it is a small boil. It develops near the lid margin, or near a hair root. Eyestrain is a very common cause, but styes would not be possible if the general health and hygiene were as they should be. Temporarily eye rest is useful, and dark glasses may be worn; but as a preventive a special course of eye exercises is valuable. If used when the first sign of the stye appears, the sulphate-of-zinc wash mentioned under "Pink Eye" will often bring a quick termination of the symptoms. The area of the stye must be cleansed, possibly with boric-acid solution, and the inflammation can be brought to a "head" by hot compresses of the same solution. Attention to the diet, satisfactory elimination, and correction of eye defects by natural means, will usually prevent future styes from forming.

SUNBURN. Children are frequently rather painfully sunburned. Cold cream, sweet cream from cow's milk, or zinc-oxide ointment, may be applied over the area, and will help to reduce the burning sensation quickly and hasten healing. Cold wet cloths applied to the affected part will bring immediate relief to the burning pain of sunburn, but they must be re-wet as soon as they dry out.

TEETHING SYMPTOMS. Even in healthy children there is quite frequently fretfulness and poor sleep for several

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nights preceding the cutting of a tooth. There is generally loss of appetite. The child may take less than one-half of his usual amount of food. There is considerable drooling; sometimes slight fever.

There are usually some digestive troubles—indicated by vomiting, or the passing of undigested food in the stool; and these can be very greatly mitigated by scrupulous care and attention in the selection of the diet.

With sickly children these symptoms are naturally more severe than with healthy, rugged children. They ordinarily last for only three or four days, although there may be none of the usual gain in weight for two or even three weeks.

THRUSH. This is an inflammation of the mouth, with small white patches, occurring mostly in young infants. It is considered a parasitic affection, and is usually called *Parasitic Stomatitis*.

Another condition somewhat similar, called *Aphthous Stomatitis* or *Herpetic Stomatitis* develops in children from six to eighteen months of age. In this type there is redness and slight swelling of the mucous membrane of the mouth, and small white blisters appear on it.

Another type, called *Catarrhal Stomatitis*, sometimes develops during the eruption of the teeth. Part or all of the inside of the mouth may become red, hot and dry. Later the saliva flows freely, and the tongue is coated. There are also thirst, constipation, and a slight fever, usually lasting about a week.

Still another type, termed *Ulcerative Stomatitis*, appears in children as a result of scurvy, infectious fevers, malnutrition, etc. The gums are swollen, red

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and painful, the saliva is increased in amount and is acid, irritating and offensive, the breath is foul, and hemorrhages occur when pressure is applied to the gums or mucous membrane.

Each of these types, even the last named one, is the result of bad hygiene, uncleanliness, improper feeding, and digestive disturbances. They are all practically self-limited, but better hygiene, cleanliness, regulation of the bowels, proper feeding, and mouth washes of boric acid, sodium salicilate, or hydrogen peroxide, will hasten improvement, and should be employed.

TONSILLITIS. *Simple Tonsillitis* is a catarrhal inflammation of the tonsillar mucous membrane, with swelling resulting from congestion of the blood-vessels. The tonsils themselves are affected also, and are dry, hot, painful on pressure, and usually covered with thick white mucus. On swallowing there is a feeling as if ground glass were passing down the throat. There are headache and a slight fever in many cases, with stiffness of the neck and general aching. The lymph glands of the neck rarely escape swelling.

In *Follicular Tonsillitis* the tonsillar crypts are filled with whitish cheesy plugs, and other white foul-smelling patches appear on the tonsillar surfaces.

Ulcerative or Phlegmonous Tonsillitis (Quinsy) is an aggravated form in which abscesses form in the tonsils. The pain is severe and greatly aggravated by swallowing even the saliva. The swallowing of solid substances is almost impossible, and should never be allowed.

With the exception of the ulcerative form the outlook

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is favorable for a prompt recovery, but this form must be treated with considerable care or grave consequences may result.

In any of these forms treatment should begin with a fully effective enema and abstention from all food except acid fruit and fruit juices. An abundance of water, hot or cold as preferred, should be given by mouth, and to encourage drinking the water may be flavored with acid fruit juices, or if the sweet is desired, with honey. Cracked ice may be allowed to dissolve in the mouth. Cold applications to the neck and jaw are of great value in giving relief and reducing the inflammation, though in many instances hot packs will be more agreeable and beneficial. Alternate hot and cold applications are sometimes particularly effective. Hot or cold water gargles are excellent, and lemon water, or boric-acid solution, may be employed for this purpose. If the tonsils are greatly inflamed, a swab of glycerine, phenol and tannic acid is sometimes prescribed to help reduce the inflammation and soothe the irritation and pain. If fever is considerable, the cold-sheet pack may be effective in helping to reduce it. Pure air is indispensable at all times. The mouth-breathing tendency may be reduced by spraying or irrigating the nostrils with salt water, or boric-acid solution, at neutral temperature.

In the ulcerative form use hot packs to the neck and jaw, and hot salt-water gargles. Do not use the cold packs. Encourage water drinking regardless of the pain on swallowing. The abscesses may rupture of their own accord, but sometimes the physician in charge will lance the tonsil. But the treatment suggested will

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usually bring about excellent results in a short time, and lancing is rarely necessary.

CHRONIC ENLARGEMENT OF THE TONSILS. Hypertrophy of the tonsils is often associated with adenoids, with symptoms of mouth breathing, snoring, nightmares, or disturbing dreams, ear affections, etc. Proper constitutional treatment will generally correct all these symptoms and their causes, though the adenoids themselves may require removal, as they are unnatural growths that occasionally resist natural treatment. The tonsils being natural and normal structures, with a part to play in the physical economy, should be retained whenever possible. Starches, candies and sweets are the most prominent single cause of both tonsil enlargement and adenoids. Intestinal putrefaction, fermentation and inactivity are also important causative factors, and should be corrected and avoided.

TOOTHACHE. Toothache is usually an indication of a condition requiring dental treatment. Inflammatory toothache may be relieved by external applications of cold, or these may be applied to the neck and upper spine. If the toothache is of nervous origin, heat will be required, which may be applied by hot-water bottles or bags, sand bags, or hot fomentations. A hot fig, split and placed over the gum and tooth affected is an old remedy that is still valuable where local heat is desired. If it is impossible to determine the nature of the trouble, cold applications may first be given, and these followed by hot if necessary. Free drinking of hot water will bring considerable relief in some cases, by greatly increasing the circulation. If there are cavities,

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nothing more may be necessary to give relief than to clean out the deposit of food substances. Oil of cloves applied to a tiny cotton pledge and placed directly in a cavity, using care that the substance does not touch the gum, is likely to relieve toothache resulting from an exposed or sensitive nerve, but the real remedy is a visit to the dentist as soon as possible. In the meantime, deny the child all sweets, as these aggravate a toothache more than all other classes of foods.

WHOOPING-COUGH (Pertussis). Whooping-cough is considered very infectious; it is an inflammation of the respiratory tract, with a severe and peculiar spasmodic, dry, hollow cough that ends in a whooping intake of air. Usually there are symptoms of an acute fever—loss of appetite, elevation of temperature, catarrhal symptoms, as of a slight bronchitis, and general restlessness. In most cases coughing paroxysms begin during the second week, and may increase in severity and last for two or three months. The usual duration is five to seven weeks. The characteristic cough is a series of expiratory coughs followed by a long whooping inspiration which may end in vomiting. The vomiting and general digestive disturbance may be so severe and protracted as to give rise to dangerous complications of bronchitis, broncho-pneumonia, convulsions, or nutritional disturbances. On account of these complications, twice as many die from whooping-cough as from measles. The outlook is generally favorable for a complete restoration to normal.

In treating this condition it is not necessary to confine the patient to bed unless there is fever and general

weakness. Quiet, however, reduces the number and severity of the paroxysms of coughing, and the child should probably be put to bed if its coughing is too severe, or produces vomiting. Remember, however, that vomiting usually indicates overfeeding, or improper feeding, and that under such circumstances it is an actual benefit. There must be fresh air in abundance, day and night, and daily sun baths in the nude if possible. In cold weather the body must be kept warm, and hot-water bottles may be necessary at night. As a rule the diet should consist of fruits and milk only, but sometimes a diet of chopped meat can be given for a short time with advantage. As the appetite is usually small, it may be well to allow it to determine the amount of food taken. Much water should be taken internally, also, and this may be flavored with a little lemon juice or honey. A cold pack may be applied to the throat at night during the time of most severe paroxysms, but this must become heated within a short time after application, and should then be renewed. During the day a hot chest pack may be given during coughing spells. This should be followed by a short sponge bath to the chest. Or hot spinal packs may be given once daily. A milk diet is valuable during convalescence.

WORMS (Taenia). There are several varieties of intestinal worms, but the tapeworm, roundworm, and threadworm are the most important. The first inhabits the large intestines, and the second the small intestines. They produce symptoms of digestive disturbance, with increase of appetite, malnutrition, anemia, sometimes diarrhea, and abdominal discomfort. The *threadworms*,

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or *pinworms*, are very small and inhabit the lower bowel, or migrate to the genital organs. They cause an intense itching wherever they locate, and if in the genitals may lead to masturbation.

In the treatment of all these forms, a fast of from twenty-four to forty-eight hours should be given, though a small amount of acid fruit juices may be allowed. At the end of the second day, or at the beginning of the third day, a meal of macerated pumpkin seed is usually advised for roundworms or tapeworms. A salt-water enema will usually prove effective, especially for the roundworms, or an Epsom-salts enema may be given with even greater assurance of desired results. In either case the treatment may have to be repeated. Ordinary diet may be resumed after the treatment, but should be light, and the bowels should be active.

While enemas of salt water or Epsom salts are usually effective, a weak solution of carbolic acid (five grains to the pint of water), or of alum, may prove more satisfactory in some cases. The carbolic solution, however, should be prepared or prescribed by a physician; otherwise *do not use it*. Usually only one or two enemas are required. If the parasites are external, about the genitalia, the use of the carbolic solution on the affected areas will remove them. A good way to use carbolic acid is in carbolated vaseline. This is sufficiently strong, yet safe to use.

CHAPTER XXIII

Disfigurements and Deficiency Disorders

CERTAIN deficiency disorders such as rickets and its resulting conditions, bowlegs, knock-knees, chicken-breast, spinal curvature, etc., are primarily due to lack of mineral salts in the child's diet, or in that of the mother during the period of gestation, depriving it of the proper materials for bone structure.

The main factor in overcoming these disorders is the proper kind of food. This should consist of whole-wheat bread, krumbles, shredded-wheat biscuit, Wheatsworth biscuit, whole rice, vegetables of all kinds, plenty of milk and fruit—particularly of the citrus variety, such as oranges, lemons and grapefruit, as these have a high content of alkaline bases.

Careful adherence to this regimen over a period of years will be almost certain to result in immense benefit to the nutrition, and will tend to overcome disorders due to lack of lime phosphates.

DEFORMITIES OF THE FEET. *Clubfoot* (talipes). Clubfoot may be either congenital or acquired. There are several forms. The heel or the toe may be raised, or the foot may be turned with sole inward or outward; also the arch may be exaggerated in some cases and the foot may have the appearance of the Chinese woman's foot; or the toes may be turned inward, toward each other, or outward. One or both feet may be affected. Inflammation, rheumatism, rickets, injuries, paralysis,

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etc., may cause contraction of the muscles, or other structures, and produce the deformity.

The treatment consists of massage and manipulations in the indicated directions, and active exercises designed to right the abnormality. A mechanical device may also be applied to the extremity and, with a lever, the condition may be gradually corrected. If however, proper manipulations are used in conjunction with the mechanical device, results will be obtained more quickly.

If the deformity is *flat-foot*, special exercises designed to strengthen the foot muscles and ligaments, will usually effect a cure. Treatment should be begun early in all these conditions, and must be persistent to be successful.

KNOCK-KNEE. This is a deformity of the lower extremities, showing especially at the knee joints. It appears in infancy, or at adolescence, as the result of rickets or muscular paralysis, of standing too early, or too long, when undeveloped or more or less devitalized. In most cases the condition is not pronounced and may require no treatment. In others the knees may knock together in walking, and in standing they may overlap, unless the feet are considerably separated. Not infrequently the victim cannot walk much, or even stand for any length of time.

The general treatment is the same as for rickets. (See Chapter XXII, page 315.)

Between the ages of two and five, mechanical treatment may be of considerable benefit. All local treatment must include outward pressure at the most prominent part of the deformity. A padded rigid splint may

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be applied on the outer surface of the leg, and the knee taped fairly tightly to this, with the leg straight. It will be necessary to fasten this splint at the upper part of the thigh and at the ankle also. Care must be taken not to exert too great pressure upon the knee, and to avoid continuing this pressure too long. If the child is old enough to walk, the inner half of the sole and heel of the shoe should be built up, with the inner edge varying in thickness according to the degree of the deformity.

Bow-Legs. In this condition the deformity is opposite to knock-knee. Usually the greatest deviation from normal is just below the knee and extending for the upper third of the lower leg. The entire lower extremities are in some cases bowed outward. The causes are the same as for knock-knee and the general treatment will be the same. In some cases the deformity undergoes spontaneous correction. Treatment may be given by means of a local splint, as for knock-knee. It is perhaps best to have the splint placed on the inner surface of the leg, binding the knee down to it, observing the same precautions as above regarding the amount and duration of the pressure. Massage, with some force inward on the knees, or point of greatest outward curve, will help. The shoes should be altered by building up the *outer* half of the soles and heels—the opposite of the arrangement for knock-knees.

CROSS-EYES (Squint). This condition is not so frequently present at birth as it is after the child begins to observe carefully the things about it. It is then, in many cases at least, doubtless brought on by automatic at-

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tempts to overcome errors of refraction, or by wrong lighting conditions. As soon as a child is old enough to understand what is desired, it should be given the special course of eye treatment given in detail in my "Strengthening the Eyes." If taken early, the special exercises and treatment for the eyes will correct many of these cases that might otherwise require glasses for a lifetime, or an operation.

HARE-LIP AND CLEFT-PALATE. Hare-lip and cleft-palate are the results of some unknown agency acting upon the embryo during the period of gestation, which arrests the development of these tissues at a point which would correspond with what might be expected in the case of some remote ancestor in those days when to breathe through gills was the fashion.

A study of Darwin or Haeckel will explain how these "throw-backs" may come about, and why it is that we take on, at certain times in our embryological development, the various characteristics of the different forms of life through which we have evolved in coming up to our present level of existence.

Hare-lip is that condition in which there is a complete cleft through the upper lip. This cleft may expose the teeth, and at times even extend into the nose. It interferes materially with sucking, necessitating a specially prepared rubber nipple for this purpose, or else constant feeding from a spoon.

The separated tissues may be joined by a slight surgical operation which gives very satisfactory results.

In cleft-palate, the cleft may extend directly through the palate, making of the mouth and nose one single

cavity. This condition is usually combined with hare-lip. It is exceedingly difficult to correct later in life, while in infancy it makes nursing an impossibility because of the fact that the babe has no power to suck.

In this event the mother may eject her milk into a cup and feed it to the baby from a spoon, or a feeding cup with a long spout. This will enable the child to secure the milk by gravity instead of suction. She may also obtain a rubber nipple combined with a flap of thin rubber, which acts as a false palate, closing the cleft in the palate during nursing. It is not wise to operate on these cases until the child is two years old or more.

TONGUE-TIE. Another slight developmental defect is tongue-tie. This is a condition in which the tongue is held more or less bound down to the floor of the mouth by the thin fold of mucous membrane, called the frenulum, seen underneath the center of the tongue. In infancy the condition interferes with nursing, especially swallowing; hence, it might prevent normal nourishment; later it interferes with talking, frequently being responsible for lisping. Correction of the trouble is so simple that it should be done in every case, but always by a physician. All that is necessary is to clip the frenulum sufficiently to free the tongue, care being necessary to avoid cutting the artery that runs through this tissue.

WHAT TO DO FOR PROTRUDING EARS. Protruding ears cause the young mother considerable concern, as they are quite likely to be extremely disfiguring in later life, if the condition is not corrected.

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A great deal can be done to remedy this deformity if taken in time. All that is required is that the mother keep constantly around the head a bandage binding the ears to the side of the head. The delicate cartilage will rapidly accommodate itself to this pressure, and after a few months' treatment remain relatively flat to the head.

Every mother should be very careful to see that when her baby sleeps on its side, the ear is never bent over, as this is one of the most common causes for protruding ears.

Many mothers find that a cap, or a network bandage, worn during sleep, will not only help to keep the ears from being bent, but will also tend to press them against the side of the head.

If, at the age of three or four, the ears protrude to such an extent as to be really unsightly, the condition can be corrected by a slight surgical operation. This is what is known as "cosmetic surgery." It is attended by very little pain, and no danger.

BIRTHMARKS AND WARTS. Birthmarks, moles, and hairy disfigurements are quite common.

They are in no way connected, as I have shown in a previous chapter, with impressions made upon the mother's mind during the time she was carrying the child.

The *naevus*, or *birthmark*, as it is called, consists of a purple or reddish patch on the skin. In some instances it is disposed to extensive growth, in which event it may possibly prove a source of danger in forming the nidus for a cancer in later life.

A *mole* is a dark spot in the skin caused by an excess-

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sive deposit of pigment in that area. It may be either smooth, or else covered with hair. Moles are generally small, but sometimes sufficiently developed to detract materially from the looks of the child.

Warts are merely excrescences on the surface of the skin, and while unsightly, are not in any sense of sufficient importance to cause anxiety. Curiously enough, they seem to be somewhat under the control of the mind, inasmuch as they respond in a surprising number of instances to mental suggestion, implanted directly or through some of the old wives' sorceries, such as rubbing the wart with the left hind leg of a rabbit killed in the graveyard in the light of the moon, and other equally silly procedures. Warts can be burnt out with electricity, and the process is not very painful.

The best and most effective treatment for all these troubles is the use of the cautery, or caustic. Or the carbonic snow, which is now so extensively used by cosmetic surgeons generally, may produce good results.

These defects, with the exception of birthmarks, are almost invariably amenable to intelligent treatment, the results of which are in some cases well worth the effort and expense involved. But one should usually not attempt home treatment, particularly for birthmarks. These are sometimes removed by the electro-cautery, or by treatment with the mercury sun lamp, etc., but usually a scar is left almost as undesirable as the birthmark itself.

STOOSED OR ROUND SHOULDERS. General weakness is one of the most frequent causes for a child's "slumping," and this habit in time may lead to a permanent

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curving of the spine, with prominence of the shoulder-blades and protrusion of the head. The height of school desk or table, in relation to the chair, has caused this condition in thousands of cases. Nearsightedness is also responsible for many cases. If there is incipient disease of the spine, there may be a stooping, also, due either to the weakness, pain, or change in the structure of the bones.

The correction of the condition depends upon correction of the cause, and teaching the child to maintain an erect position constantly. Exercises designed for strengthening the spinal muscles are highly important, but should not be carried to the point of fatigue. So also is a nourishing diet. Braces are crutches only, and train the child to depend upon this unnatural support, with aggravation of the weakness and deformity, in many cases.

CHAPTER XXIV

Nervous Weakness and Nervous Diseases

THE delicate structure of an infant's brain is, in itself, an invitation to irritating conditions. More plastic than any modeling clay, it takes its impressions from its surroundings, and from every influence that acts upon it.

Therefore extreme care must be taken to make sure that babies are not disturbed in their rest, and that no habit is established which might interfere with their getting the proper amount of rest.

Infants should be *let alone* as much as possible. They require peaceful, quiet surroundings. If they are prone to nervousness, they should see very few people, and should be played with little or not at all. They should never be quieted with soothing syrups, or given so-called "pacifiers" to play with.

Except for a very brief period of exercise daily, or, for a while at first, every second day, babies under six months of age should never be played with. Too much attention makes them nervous and irritable, gives them indigestion, and tends to make them sleep badly at night.

All these effects, in turn, inevitably bring about a state of "backwardness," which may develop into a permanent condition that will handicap a child through its whole life.

Nothing in the world is more important than sound, healthy nerves, and nothing is easier to develop, if only one uses a little common sense.

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The following are some of the most frequent and troublesome of the nervous ailments of children.

CHOREA (St. Vitus' Dance). This is a fairly common condition that develops slowly and, in some cases, progresses to a point where the patient is absolutely incapacitated from taking care of himself. The most prominent symptom is irregular spasmotic twitching of the muscles of some part of the body. At times some of the movements continue during rest, but usually not. Children are sometimes affected as early as five years of age, but not often younger than this. For some reason girls have this complaint more than boys. Usually there is also an under-nourished appearance—anemia. There is also, usually, a poor appetite and constipation, with irritable temper. Hard application to school work is frequently noticed in these little patients, and this may be a partial cause. Other causes are children's diseases (which often closely precede the chorea), fright, worry, nagging, injury and the conditions producing rheumatism.

It is frequently necessary that these patients be given considerable rest. They must be kept away from other children who might irritate them. Play out of doors that is thoroughly enjoyed and is not too strenuous is usually of value, but competitive games are usually injurious because of the excitement they induce. They should have abundant undisturbed sleep. Constipation must be corrected, and worms and external genital irritations must be removed. Tea and coffee and all candies, sweets and pastries should be kept from the child.

The diet should consist almost entirely of good milk, with some fruits and, possibly, fresh vegetables. A daily warm relaxing bath can usually be given with advantage, followed or preceded by general massage and passive movements. A daily sun and air bath for a few minutes, with or without body friction, will be of great value. Electricity may be used later with considerable benefit.

EPILEPSY. The first attack of this dreaded malady is likely to come on without warning. In this disease the victim loses consciousness, or has convulsions, or both. The attacks are frequently preceded by a peculiar sensation called the "aura," but this sensation is not interpreted until after a few attacks. There may be an unconscious cry at the same time. Sometimes the spells come on only at night during sleep. There is usually a frothing at the mouth after a few jerky movements of the body, and the face becomes congested and bluish, following a deathly paleness. Then relaxation comes, and the patient sinks into an extremely deep sleep. The only signs of the attack on awaking (in both the day and night forms) may be lameness of the muscles and a sore tongue from biting during the convulsions.

The cause of the disease is not known, but there is supposed to be some hereditary influence in many cases. In others, a neurotic tendency exists. Alcoholism, inherited syphilis, malnutrition, rickets, fevers, worms, injury and digestive disturbance are all considered as causes in individual cases.

During the attack all that needs to be done is to keep the patient from injuring himself, if possible. A piece

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of rubber, a folded handkerchief, or other cloth or soft substance, may be stuffed between the teeth; but care must be taken that it cannot choke the patient. In a few minutes the attack is over and the patient asleep. Protect him from cold, and nothing else need be done.

Between the attacks the diet must be given considerable attention. It is best to fast for a few days, in most cases, or to have nothing but fruit juices. Then the diet should be gradually increased to sufficient to maintain strength and weight, but should never be quite all the patient wants. Meats and heavy proteins, pastries, sweets and fats (except butter) should not be allowed. Salt can be used sparingly, but all spices and condiments should be withheld. Fruits and vegetables, milk and some whole-grain cereals should constitute the diet. The bowels must be kept active, by the proper foods, exercise, abdominal massage, and enemas if necessary. An abundance of fresh air and sunlight are necessary, also sleep.

INSOMNIA. Many children occasion considerable anxiety by their inability to sleep at night. This is a rather serious condition, as it implies an irritated state in the system, which, if allowed to continue too long, might result in very serious nervous disorder.

Naturally, all exciting causes should be removed. The child should not be allowed to play immediately before bedtime, or to become excited in any way. A too hearty meal at night, in the case of older children, often occasions insomnia, although more frequently it will be found that a limited amount of light food just before going to bed will serve to draw the blood away from the brain, and bring about healthful sleep.

Naturally, any bright light in the room, or the sound of voices, must be guarded against in the case of children who are troubled with insomnia.

Occasionally it has been found that a warm bath just before going to bed has a decidedly sedative action. It is distinctly helpful in equalizing the circulation and in bringing about the state of relaxation that favors sleep.

NIGHT-TERRORS. This is one of the most common nervous disorders of babies and young children. Every mother is familiar with the phenomenon which manifests itself most frequently at from two to six years of age, or older. The children may apparently be in perfect health, and go to bed with every indication of spending a quiet and restful night.

Suddenly, without any apparent cause, they start from sleep, screaming with fright and chattering with cold. They may even jump from the bed and run about the room, totally oblivious to the fact that the mother, or some other equally familiar member of the family, may be trying to quiet them.

Night-terrors must not be confused with ordinary nightmare, which is merely a distressing dream, the evil influences of which disappear almost immediately on awaking. In nightmare, the child is usually able to state the cause of its fright, while in night-terrors there is usually no ability to assign a definite cause for the trouble.

These attacks may occur once or more a night, or at intervals of a week or thereabouts. In some rare instances, attacks in every way similar to night-terrors

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may even take place while the child is awake, or during his play.

The chief cause of night-terrors is believed to be some disturbance of digestion, associated with an exhausted nervous condition. The trouble has sometimes proved to be the forerunner of epilepsy.

In order to effect a cure, it is necessary to place the child on a restricted diet, favoring milk, whole-wheat bread and fruit, and eliminating meat, eggs, or highly concentrated protein foods. The last meal at night should be especially light in character.

Daily movements of the bowels should be secured. Plenty of water should be drunk, and a healthy outdoor life insisted upon.

In children who are old enough to understand, splendid results have been secured by suggestive treatments. This forms the basis of the treatment ordinarily given by psycho-analysts, and those who employ suggestive therapeutics for the relief of various functional disorders.

It consists simply in talking to the child, in a quiet, firm tone, after the child has gone to bed and is asleep. At this time the objective mind is at rest. The subconscious mind, which governs all the automatic functioning of the body, as well as the activities of the brain during sleep, is appealed to directly.

Surprising results have been secured by this simple procedure, which is not only effective for night-terrors and nightmares, but also for bad habits and various deficiencies.

CHAPTER XXV

The Mistakes of Mothers Corrected

ACAT is said to have nine lives, but when you consider the way the average baby is abused you might with reason maintain that the human infant has ninety-nine lives. What a baby can stand, and still live, is almost beyond belief. If it were not for what might be termed the stupendous vitality possessed by the human race, we should sink into oblivion in a few generations.

Nearly all the mistakes made by the average mother in the rearing of her children are due to delusions that are as ancient as they are persistent. Even those parents who recognize the errors of the prevailing system, often lack the courage to put their beliefs into practice, fearing that harm may befall their darlings and that they will be accused of sacrificing them to "new-fangled" notions. Here is a summary of these delusions:

That a baby from birth must be swaddled in as many garments as possible, the fact being ignored that the skin, for a half-score of reasons, ought to have free contact with the outside air.

That rooms through which the air is circulating are highly dangerous to a baby's health, when, as a matter of fact, precisely the contrary is the case.

That a baby will grow strong and vigorous even if it be rarely taken outside of the house.

That so-called baby foods are just as good as the food which Nature provided for the infant, although breast milk has a living, vital quality which is absent in

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any patent preparations and contains every element in the exact proportion needed for the making of blood, bone, flesh and sinew, if the mother is normal and her diet is right.

That "soothing syrups" and like poisonous compounds are harmless and really do the work which their proprietors foolishly or mendaciously claim they accomplish.

That whenever baby cries it must be hungry, whereas it is often thirsty and wants water instead of more nourishment.

That the idiotic custom of jogging, jolting, or thumping the back of the baby is, for some reason or other, an excellent one, whereas an adult subjected to the same treatment day after day would soon exhibit symptoms of internal derangement of some sort.

That it doesn't do baby a bit of harm to keep its little brain excited and its immature nerves tense during most of its waking hours by teaching it cunning tricks, or making it do stunts for the edification of admiring friends or adoring relatives.

That it is a harmless amusement to feed baby morsels of meat, pastry, candy and the like, and watch its instinctive efforts to get rid of the unnatural stuff.

That baby is made of glass, and is, in consequence, likely to snap if exercised in any way.

That promiscuous kissing of the child, even by strangers, doesn't do it any harm.

That the use of the enema is perfectly dreadful, but that powerful purgatives are quite permissible.

That huge diapers are desirable, notwithstanding that they tend to produce bow-legs and weaken



The mite of life whose health depends on mother care.

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the muscles of the abdomen by subjecting them to a perpetual sweat bath.

That baby needs the hottest kind of baths, and that the pores of the skin must be clogged with a layer of powder of some kind.

That a mother's instinct is a sufficient guide in the raising of her children, and she doesn't need any instruction from those who have made a special study of the problem.

It is the purpose of this book to dispel such superstitions with the light of truth, to impress upon mothers and others responsible for the care of children their grave responsibilities, and to show them how simple are Nature's laws and how easily they may be applied to the care of these little ones.

A baby is a little animal, but it must be remembered that he cannot defend himself as can the young of other animals. He is helpless and at the mercy of his caretakers. He can be assisted to grow strong and sturdy, or he can be so injured in the first few weeks of his existence that, even if he survives, he can never attain his normal development, nor live out his normal span of life.

Some mistakes can be corrected, but, unfortunately, this is not true of all. Therefore it behooves the mother to see that the baby has everything it needs for its growth and development, and that it is protected from everything which might injure its health.

Being a little animal, the baby is a part of Nature—nothing supernatural, nothing beyond the influence of Nature's laws. But, though much study has been devoted to the feeding, housing and general care of other

animals—horses, cattle, sheep, dogs, cats, birds, etc.,—that their health may be maintained and their purpose in life carried out to the fullest extent, a child, perhaps in the home of one who is making such studies, may die for want of a fraction of the attention given to these creatures.

Yet the baby needs more care in the selection of its diet and the regulation of the other conditions of its life than any other animal requires, because of the fact that previous generations have handed down to it the tendency to weakness and disease.

A baby is more active for its size than any adult—it expends more energy for its weight in a given time than does an adult. Therefore it is detrimental to a baby's health and growth to in any way restrict its physical activity.

A baby's recuperative powers are great, and, if it has previously received proper care, will, if given a chance, quickly restore it to health in case disease develops.

But giving it a chance does not mean unnatural treatment by medicine, coddling, etc. The vital force within the little body will be either depressed by this treatment or over-stimulated, and the depression or stimulation may be sufficient to overpower the vital force and snuff out a young life at its beginning.

It has been my purpose in preparing this book to present the safest and most effective means of preserving and restoring health in infancy and childhood. The material is based upon much experience and observation, not only my own, but that of many physicians and scientists who have viewed the disorders of infancy and childhood as disturbances of health resulting naturally

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from removable causes, rather than as outside conditions which appear "out of nowhere" for the purpose of harassing the innocent ones.

Ill health, viewed merely as a remediable disturbance of the health-maintaining functions, is a comparatively simple matter, and not the highly complex subject one is led to believe by the old school of medicine—which has not studied health in children or adults, but disease and ill health alone.

A series of "Dont's" could be appended here, but my endeavor has been to point out the substitutes for "Don'ts." Modern psychology has shown that we are inclined to do what we are told *not* to do. Instead of "Don't," I have tried to say "Do." I have endeavored to present the *proper* way of caring for children and I am convinced that if the instructions here given were generally followed, the result would be greater health and freedom from disease for all children, greater vitality to resist disease in the future, greater mentality because of the better bodies, and a greater race.

(THE END)

Helpful Government Bulletins for Mothers

The following books and pamphlets, issued by the Government, will be found very helpful:

“Average Heights and Weights of Children Under Six Years of Age,” 1921. 4 pages. (Children’s Bureau, Community Child-welfare Series 2).....	5c
“Child Care: pt. 1, The Pre-school Age.” 1918, 88 pages, illus. (Care of Children Series 3).....	20c
“Child-welfare Exhibits, Types and Preparation,” 1915, 58 pages, illus. (Children’s Bureau, Misc. Series 4)	20c
“Food for Young Children, 3 to 6 Years of Age, with Recipes.” (Farmer’s Bulletin 717).....	10c
“Handbook of Federal Statistics of Children.” Pt. 1, Number of children in United States, with their sex, age, race, nativity, parentage and geographic distribution, 1914, 106 pages. (Children’s Bureau, Misc. Series 3)	10c
“Heights and Weights of Children.” Classification by age and by sanitation of 1,652 white school children in the City of X (Public Health Reprint 303)	5c
“How to Conduct a Children’s Health Conference.” 1917, 24 pages. (Children’s Bureau Misc. Series 9) ..	5c
“Instructions for the Use of Child Hygiene Survey Cards.” (Public Health, Miscellaneous Publication 23)	5c
“Malnutrition: Helpful Advice to Parents.” 1920, 12 pages (Keep Well Series 11).....	5c
“Malnutrition in Children.” (Public Health Reprint 654)	5c
“Maternity Care and the Welfare of Young Children in a Homesteading County in Montana.” 1919, 98 pages, illus. (Rural Child Welfare Series 3).....	20c

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